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CANDIDATE LOCAL MINIMIZER OF BLAKE & ZISSERMAN FUNCTIONAL

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Abstract - Almansi decomposition and explicit coefficients of asymptotic expansion around the origin for bi-harmonic functions in a disk with a crack are evaluated by simbolic computations with Mathematica 5.0 .
We deduce S.I.F. and modes coefficients of the leading term in the expansion for candidate local minimizer of Blake & Zisserman functional.

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```
ClearAll
```

```
ClearAll
```

```
(* INSTRUCTIONS:
  ClearAll is not enough to perform evaluations:
    closing Kernel and Mathemtica
     program is necessary
   to restart evaluation *)
```

(10.1) Differential Operators in polar coordinates

```
dx[u_] := Cos[t] * D[u, r] - Sin[t] * D[u, t] / r
dy[u_] := Sin[t] * D[u, r] + Cos[t] * D[u, t] / r
dxx[u_] := dx[dx[u]]
dyy[u_] := dy[dy[u]]
dxy[u_] := dx[dy[u]]
dyx[u_] := dy[dx[u]]
lap[u_] := dxx[u] + dyy[u]
hes2[u_] := dxx[u] ^2 + dyy[u] ^2 + 2 * dxy[u] ^2
```

(10.2) Candidate Modes

Notebook parameters (a,b,α,β,γ,δ,λ) vs file.TEX parameters (A,B,c1,c2,c3,c4)
a = 1/3 A , b = 1/3 B,
a $\mathcal{A}$ = c4 , a $\mathcal{G}$ = c2, b $\mathcal{B}$ = c3, b $\mathcal{D}$ = c1,
(u is a generic mute variable , used in several different contexts*
parameter A in the paper is 3 times parameter a in the Notebook
*parameter B in the paper is 3 times parameter b in the Notebook *)*

```
us := r^(3/2) * Sin[t/2]
vs := r^(3/2) * Sin[3*t/2]
uc := r^(3/2) * Cos[t/2]
vc := r^(3/2) * Cos[3*t/2]
u := a * (𝒜 * us + 𝒢 * vs) + b * (ℬ * uc + 𝒟 * vc)

(* Mode 1   ω *)
ω := ( Sin[t/2] - 5/3 * Sin[3*t/2])

(* Mode 2   w *)
w := ( Cos[t/2] - 7/3 * Cos[3*t/2])

u
```

$$b\left(r^{3/2}\,\mathcal{B}\,\mathrm{Cos}\left[\frac{t}{2}\right]+r^{3/2}\,\mathcal{D}\,\mathrm{Cos}\left[\frac{3\,t}{2}\right]\right)+a\left(r^{3/2}\,\mathcal{A}\,\mathrm{Sin}\left[\frac{t}{2}\right]+r^{3/2}\,\mathcal{G}\,\mathrm{Sin}\left[\frac{3\,t}{2}\right]\right)$$

(10.3) Euler conditions: formula (4.3) of Theorem 4.3 at $\theta = \pi$

```
dy[dy[u]] /. t → π
```

$$-\frac{-a\left(\frac{3\sqrt{r}\,\mathcal{A}}{2}-\frac{3\sqrt{r}\,\mathcal{G}}{2}\right)-\frac{a\left(-\frac{1}{4}r^{3/2}\,\mathcal{A}+\frac{9}{4}r^{3/2}\,\mathcal{G}\right)}{r}}{r}$$

```
Simplify[%]
```

$$\frac{a\,(5\,\mathcal{A}+3\,\mathcal{G})}{4\sqrt{r}}$$

(10.4) Euler condions: formula (4.3) of Theorem 4.3 at $\theta = -\pi$

```
dy[dy[u]] /. t → -π
```

$$-\frac{-a\left(-\frac{3\sqrt{r}\,\mathcal{A}}{2}+\frac{3\sqrt{r}\,\mathcal{G}}{2}\right)-\frac{a\left(\frac{1}{4}r^{3/2}\,\mathcal{A}-\frac{9}{4}r^{3/2}\,\mathcal{G}\right)}{r}}{r}$$

```
Simplify[%]
```

$$-\frac{a\,(5\,\mathcal{A}+3\,\mathcal{G})}{4\sqrt{r}}$$

■ (10.5) Euler conditions: formula (4.4) of Theorem 4.3 at $\theta = \pi$

```
dy[dy[dy[u]]] + 2 * dx[dx[dy[u]]] /. t → π
```

$$2\left(-\frac{b\left(-\frac{3\,\mathcal{B}}{8\sqrt{r}}+\frac{9\,\mathcal{D}}{8\sqrt{r}}\right)}{r}+\frac{2\,b\left(-\frac{3\sqrt{r}\,\mathcal{B}}{4}+\frac{9\sqrt{r}\,\mathcal{D}}{4}\right)}{r^2}-\frac{2\,b\left(-\frac{1}{2}\,r^{3/2}\,\mathcal{B}+\frac{3}{2}\,r^{3/2}\,\mathcal{D}\right)}{r^3}\right)-\frac{\frac{b\left(-\frac{3\sqrt{r}\,\mathcal{B}}{4}+\frac{9\sqrt{r}\,\mathcal{D}}{4}\right)}{r}-\frac{b\left(-\frac{1}{2}\,r^{3/2}\,\mathcal{B}+\frac{3}{2}\,r^{3/2}\,\mathcal{D}\right)}{r^2}-\frac{-2\,b\left(-\frac{3\sqrt{r}\,\mathcal{B}}{4}+\frac{9\sqrt{r}\,\mathcal{D}}{4}\right)-\frac{b\left(\frac{1}{8}\,r^{3/2}\,\mathcal{B}-\frac{27}{8}\,r^{3/2}\,\mathcal{D}\right)}{r}+\frac{b\left(-\frac{1}{2}\,r^{3/2}\,\mathcal{B}+\frac{3}{2}\,r^{3/2}\,\mathcal{D}\right)}{r}}{r}}{r}$$

```
Simplify[%]
```

$$\frac{b\,(7\,\mathcal{B}+3\,\mathcal{D})}{8\,r^{3/2}}$$

■ (10.6) Euler conditions: formula (4.4) of Theorem 4.3 at $\theta = -\pi$

```
dy[dy[dy[u]]] + 2 * dx[dx[dy[u]]] /. t → -π
```

$$2\left(-\frac{b\left(\frac{3\,\mathcal{B}}{8\sqrt{r}}-\frac{9\,\mathcal{D}}{8\sqrt{r}}\right)}{r}+\frac{2\,b\left(\frac{3\sqrt{r}\,\mathcal{B}}{4}-\frac{9\sqrt{r}\,\mathcal{D}}{4}\right)}{r^2}-\frac{2\,b\left(\frac{1}{2}\,r^{3/2}\,\mathcal{B}-\frac{3}{2}\,r^{3/2}\,\mathcal{D}\right)}{r^3}\right)-\frac{\frac{b\left(\frac{3\sqrt{r}\,\mathcal{B}}{4}-\frac{9\sqrt{r}\,\mathcal{D}}{4}\right)}{r}-\frac{b\left(\frac{1}{2}\,r^{3/2}\,\mathcal{B}-\frac{3}{2}\,r^{3/2}\,\mathcal{D}\right)}{r^2}-\frac{-2\,b\left(\frac{3\sqrt{r}\,\mathcal{B}}{4}-\frac{9\sqrt{r}\,\mathcal{D}}{4}\right)+\frac{b\left(\frac{1}{2}\,r^{3/2}\,\mathcal{B}-\frac{3}{2}\,r^{3/2}\,\mathcal{D}\right)}{r}-\frac{b\left(-\frac{1}{8}\,r^{3/2}\,\mathcal{B}+\frac{27}{8}\,r^{3/2}\,\mathcal{D}\right)}{r}}{r}}{r}$$

```
Simplify[%]
```

$$-\frac{b\,(7\,\mathcal{B}+3\,\mathcal{D})}{8\,r^{3/2}}$$

■ (10.7) Choice of prmeters $\mathcal{A}$, $\mathcal{B}$, $\mathcal{G}$, $\mathcal{D}$ to be compiled in order to Plot Graphics

```
𝒜 = 3; ℬ = 3; 𝒢 = -5; 𝒟 = -7;
```

```
u
```

$$b\left(3\,r^{3/2}\,\mathrm{Cos}\left[\frac{t}{2}\right]-7\,r^{3/2}\,\mathrm{Cos}\left[\frac{3\,t}{2}\right]\right)+a\left(3\,r^{3/2}\,\mathrm{Sin}\left[\frac{t}{2}\right]-5\,r^{3/2}\,\mathrm{Sin}\left[\frac{3\,t}{2}\right]\right)$$

Evaluation of candidate (normalized and weighted by Cos(θ)) energy in a disk (in order to force equipartition of energy)
and
Evaluation of extremality conditions at crack-tip (in order to fulfil conditions of Theorem 5.5)

- ***(10.8) Hessian of u (normaliztion of candidte W) hes2[u] = |∇^2 u |^2***

```
Simplify[r * hes2[u]]
```

$$-\frac{9}{4}\left(-17 a^2 - 29 b^2 + 4 (a^2 - b^2) \mathrm{Cos}[t] + (5 a^2 - 7 b^2) \mathrm{Cos}[2 t] - 8 a b \mathrm{Sin}[t] - 12 a b \mathrm{Sin}[2 t]\right)$$

- ***(10.9) Squared hessian (|∇^2 u |^2) of u integrated over the disk B_R***
  (here we compute 9 times second equation of (7.36) in Section 7)

```
C1 = Simplify[ Integrate[%, {r, 0, R}, {t, -Pi, Pi}] ]
```

$$\frac{9}{2} (17 a^2 + 29 b^2) \pi R$$

- ***(10.10) k_1+k_2 of u***
  (here we compute 9 times equation of (7.32) in Section 7)

```
Integrate[R *
   Simplify[hes2[u] * Cos[t] + 2 *     dx[u] * ( D[dxx[u] *
          Cos[t] * dx[t] + dyy[u] * Sin[t] * dy[t] +
         dxy[u] * (Cos[t] * dy[t] + Sin[t] * dx[t]), t] +
       D[lap[u], r])], {t, -Pi, Pi}] /. r -> R
```

$$\frac{315 a^2 \pi}{4} + \frac{333 b^2 \pi}{4}$$

```
C2 = Simplify[%]
```

$$\frac{9}{4} (35 a^2 + 37 b^2) \pi$$

(10.11) Solution of algebric system (equipartition of energy and k_1+k_2=α)

```
sol = Solve[{C1 == α * R, C2 == α}, {a, b}]
```

$$\left\{\left\{a \to -\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha},\ b \to -\frac{\sqrt{\alpha}}{3\,\sqrt{193\,\pi}}\right\},\ \left\{a \to -\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha},\ b \to \frac{\sqrt{\alpha}}{3\,\sqrt{193\,\pi}}\right\},\ \left\{a \to \sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha},\ b \to -\frac{\sqrt{\alpha}}{3\,\sqrt{193\,\pi}}\right\},\ \left\{a \to \sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha},\ b \to \frac{\sqrt{\alpha}}{3\,\sqrt{193\,\pi}}\right\}\right\}$$

Computations related to higher order modes uj_h , h > 0

Definiton of an integer variable h

```
h ∈ Integers
```

h ∈ Integers

(10.12) Euler conditions for uj_h (Theorem 4.3 formula (4.3)) at $\theta = \pi$

```
us = r^(h + 3 / 2) * Sin[(h - 1 / 2) * t]
vs = r^(h + 3 / 2) * Sin[(h + 3 / 2) * t]
uc = r^(h + 3 / 2) * Cos[(h - 1 / 2) * t]
vc = r^(h + 3 / 2) * Cos[(h + 3 / 2) * t]
u  = a * (A * us + G * vs) + b * (B * uc + D * vc)
```

$$r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]$$

$$r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]$$

$$r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]$$

$$r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]$$

$$b\left(3\,r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\,r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+a\left(3\,r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-5\,r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)$$

```
dy[dy[u]] /. t → π
```

$$-\frac{1}{r}\left(-b\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)\pi\right]-7\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)\pi\right]\right)-a\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)\pi\right]-5\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)\pi\right]\right)-\frac{1}{r}\left(b\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)\pi\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)\pi\right]\right)+a\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)\pi\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)\pi\right]\right)\right)\right)$$

```
Simplify[%]
```

$$-\frac{1}{2}\,(1+2h)\,r^{-\frac{1}{2}+h}\,(a\,(15+2h)\,\mathrm{Cos}[h\pi]-2b\,(9+2h)\,\mathrm{Sin}[h\pi])$$

■ *(10.13) Euler conditions for uj_h (Theorem 4.3 formula (4.3)) at $\theta = -\pi$*

```
dy[dy[u]] /. t → -π
```

$$-\frac{1}{r}\left(-b\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)\pi\right]-7\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)\pi\right]\right)-a\left(-3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)\pi\right]+5\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)\pi\right]\right)-\frac{1}{r}\left(b\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)\pi\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)\pi\right]\right)+a\left(-3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)\pi\right]+5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)\pi\right]\right)\right)$$

```
Simplify[%]
```

$$\frac{1}{2}\,(1+2h)\,r^{-\frac{1}{2}+h}\,(a\,(15+2h)\,\mathrm{Cos}[h\pi]+2b\,(9+2h)\,\mathrm{Sin}[h\pi])$$

■ *(10.14) Euler conditions for uj_h (Theorem 4.3 formula (4.4)) at $\theta = \pi$*

```
dy[dy[dy[u]]] + 2 * dx[dx[dy[u]]] /. t → π
```

$$
\begin{aligned}
&2\Big(-\frac{1}{r}\Big(a\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right)\pi\Big]-\\
&\qquad 5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right)\pi\Big]\Big)+b\Big(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\\
&\qquad \mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right)\pi\Big]-7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right)\pi\Big]\Big)\Big)+\frac{1}{r^2}\\
&\quad\Big(2\Big(a\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right)\pi\Big]-5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right)\pi\Big]\Big)+\\
&\qquad b\Big(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right)\pi\Big]-\\
&\qquad\quad 7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right)\pi\Big]\Big)\Big)\Big)-\frac{1}{r^3}\\
&\quad\Big(2\Big(a\Big(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right)\pi\Big]-5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right)\pi\Big]\Big)+\\
&\qquad b\Big(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right)\pi\Big]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right)\pi\Big]\Big)\Big)\Big)\Big)-\\
&\frac{1}{r}\Big(\frac{1}{r}\Big(a\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right)\pi\Big]-5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right)\pi\Big]\Big)+\\
&\qquad b\Big(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right)\pi\Big]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right)\pi\Big]\Big)\Big)-\\
&\quad\frac{1}{r^2}\Big(a\Big(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right)\pi\Big]-5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right)\pi\Big]\Big)+\\
&\qquad b\Big(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right)\pi\Big]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right)\pi\Big]\Big)\Big)-\\
&\quad\frac{1}{r}\Big(-2\Big(a\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right)\pi\Big]-5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right)\pi\Big]\Big)+\\
&\qquad b\Big(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right)\pi\Big]-\\
&\qquad\quad 7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right)\pi\Big]\Big)\Big)+\frac{1}{r}\\
&\qquad\Big(a\Big(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right)\pi\Big]-5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right)\pi\Big]\Big)+\\
&\qquad b\Big(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right)\pi\Big]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right)\pi\Big]\Big)\Big)-\frac{1}{r}\\
&\qquad\Big(a\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right)\pi\Big]-5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{3}{2}+h}\\
&\qquad\quad \mathrm{Cos}\Big[\left(\frac{3}{2}+h\right)\pi\Big]\Big)+b\Big(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right)\pi\Big]-\\
&\qquad\quad 7\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right)\pi\Big]\Big)\Big)\Big)\Big)
\end{aligned}
$$

```
Simplify[%]
```

$$\frac{1}{4}\left(-1+4h^2\right)r^{-\frac{3}{2}+h}\left(4\,b\,h\,\mathrm{Cos}[h\,\pi]+a\left(-3+2h\right)\mathrm{Sin}[h\,\pi]\right)$$

■ *(10.15) Euler conditions for uj_h (Theorem 4.3 formula (4.4)) at $\theta = -\pi$*

```
dy[dy[dy[u]]] + 2 * dx[dx[dy[u]]] /. t → -π
```

$$
\begin{aligned}
&2\Big(-\frac{1}{r}\Big(a\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right)\pi\Big]-\\
&\qquad 5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right)\pi\Big]\Big)+b\Big(-3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\\
&\qquad \mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right)\pi\Big]+7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right)\pi\Big]\Big)\Big)+\frac{1}{r^2}\\
&\quad\Big(2\Big(a\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right)\pi\Big]-5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right)\pi\Big]\Big)+\\
&\qquad b\Big(-3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right)\pi\Big]+\\
&\qquad\quad 7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right)\pi\Big]\Big)\Big)\Big)-\frac{1}{r^3}\\
&\quad\Big(2\Big(a\Big(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right)\pi\Big]-5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right)\pi\Big]\Big)+\\
&\qquad b\Big(-3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right)\pi\Big]+7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right)\pi\Big]\Big)\Big)\Big)\Big)-\\
&\frac{1}{r}\Big(\frac{1}{r}\Big(a\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right)\pi\Big]-5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right)\pi\Big]\Big)+b\\
&\qquad\Big(-3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right)\pi\Big]+7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right)\pi\Big]\Big)\Big)-\\
&\quad\frac{1}{r^2}\Big(a\Big(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right)\pi\Big]-5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right)\pi\Big]\Big)+\\
&\qquad b\Big(-3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right)\pi\Big]+7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right)\pi\Big]\Big)\Big)-\\
&\quad\frac{1}{r}\Big(-2\Big(a\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right)\pi\Big]-5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right)\pi\Big]\Big)+\\
&\qquad b\Big(-3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right)\pi\Big]+\\
&\qquad\quad 7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right)\pi\Big]\Big)\Big)+\frac{1}{r}\\
&\qquad\Big(a\Big(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right)\pi\Big]-5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right)\pi\Big]\Big)+\\
&\qquad b\Big(-3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right)\pi\Big]+7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right)\pi\Big]\Big)\Big)-\\
&\qquad\frac{1}{r}\Big(a\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right)\pi\Big]-5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{3}{2}+h}\\
&\qquad\quad\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right)\pi\Big]\Big)+b\Big(-3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right)\pi\Big]+\\
&\qquad\quad 7\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right)\pi\Big]\Big)\Big)\Big)\Big)
\end{aligned}
$$

```
Simplify[%]
```

$$-\frac{1}{4}\left(-1+4h^2\right)r^{-\frac{3}{2}+h}\left(4\,b\,h\,\mathrm{Cos}[h\,\pi]+a\,(3-2\,h)\,\mathrm{Sin}[h\,\pi]\right)$$

Integration on the boundary of a small disk :
Theorem 5.5 - Crack Tip (with μ=0 , e.g. without g)

```
u
```

$$b\left(3\,r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\,r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+a\left(3\,r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-5\,r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)$$

- ***(10.16) Evalution of k_1 (NEL FILE TEX k_1 e k_2 sono definiti solo per h=0)***

```
Simplify[Integrate[R*Simplify[hes2[u]*Cos[t]],
    {t, -Pi, Pi}] ] /. r -> R
```

$$-\frac{9\,(a^2-b^2)\,(-1+2\,h)\,(1+2\,h)^2\,R^{2\,h}\,\mathrm{Sin}[2\,h\,\pi]}{2\,(-1+h)\,h}$$

- ***(10.17) Evaluation of k_2 (NEL FILE TEX k_1 e k_2 sono definiti solo per h=0)***

```
Simplify[ Integrate[
   R*Simplify[2*     dx[u]*(D[dxx[u]*Cos[t]*dx[t] +
            dyy[u]*Sin[t]*dy[t] +
            dxy[u]*(Cos[t]*dy[t] + Sin[t]*dx[t]), t] +
         D[lap[u], r])], {t, -Pi, Pi}] ] /. r -> R
```

$$\frac{1}{8\,h\,(-1+h^2)}\left((1+2\,h)\,(a^2\,(189-72\,h-486\,h^2-36\,h^3+200\,h^4+16\,h^5)-b^2\,(297-378\,h-900\,h^2+216\,h^3+512\,h^4+64\,h^5))\,R^{2\,h}\,\mathrm{Sin}[2\,h\,\pi]\right)$$

■ (10.18) Evalution of k_1+k_2

```
Integrate[R *
   Simplify[hes2[u] * Cos[t] + 2 *     dx[u] * ( D[dxx[u] *
         Cos[t] * dx[t] + dyy[u] * Sin[t] * dy[t] +
        dxy[u] * (Cos[t] * dy[t] + Sin[t] * dx[t]), t] +
      D[lap[u], r])], {t, -Pi, Pi}] /. r -> R
```

$$-\frac{153}{2} a^2 R^{2h} \mathrm{Sin}[2 h \pi] + 99 b^2 R^{2h} \mathrm{Sin}[2 h \pi] + \frac{9 a^2 R^{2h} \mathrm{Sin}[2 h \pi]}{16 (-1+h)} - \frac{9 b^2 R^{2h} \mathrm{Sin}[2 h \pi]}{16 (-1+h)} - \frac{225 a^2 R^{2h} \mathrm{Sin}[2 h \pi]}{8 h} + \frac{333 b^2 R^{2h} \mathrm{Sin}[2 h \pi]}{8 h} - 36 a^2 h R^{2h} \mathrm{Sin}[2 h \pi] + 27 b^2 h R^{2h} \mathrm{Sin}[2 h \pi] - \frac{9 a^2 h R^{2h} \mathrm{Sin}[2 h \pi]}{-1+h} + \frac{9 b^2 h R^{2h} \mathrm{Sin}[2 h \pi]}{-1+h} - 6 a^2 h^2 R^{2h} \mathrm{Sin}[2 h \pi] + 12 b^2 h^2 R^{2h} \mathrm{Sin}[2 h \pi] - \frac{81 a^2 h^2 R^{2h} \mathrm{Sin}[2 h \pi]}{2 (-1+h)} + \frac{81 b^2 h^2 R^{2h} \mathrm{Sin}[2 h \pi]}{2 (-1+h)} - 30 a^2 h^3 R^{2h} \mathrm{Sin}[2 h \pi] + 42 b^2 h^3 R^{2h} \mathrm{Sin}[2 h \pi] - \frac{36 a^2 h^3 R^{2h} \mathrm{Sin}[2 h \pi]}{-1+h} + \frac{36 b^2 h^3 R^{2h} \mathrm{Sin}[2 h \pi]}{-1+h} + \frac{9 a^2 h^4 R^{2h} \mathrm{Sin}[2 h \pi]}{-1+h} - \frac{9 b^2 h^4 R^{2h} \mathrm{Sin}[2 h \pi]}{-1+h} + \frac{405 a^2 R^{2h} \mathrm{Sin}[2 h \pi]}{16 (1+h)} - \frac{945 b^2 R^{2h} \mathrm{Sin}[2 h \pi]}{16 (1+h)} + \frac{225 a^2 h R^{2h} \mathrm{Sin}[2 h \pi]}{2 (1+h)} - \frac{252 b^2 h R^{2h} \mathrm{Sin}[2 h \pi]}{1+h} + \frac{345 a^2 h^2 R^{2h} \mathrm{Sin}[2 h \pi]}{2 (1+h)} - \frac{735 b^2 h^2 R^{2h} \mathrm{Sin}[2 h \pi]}{2 (1+h)} + \frac{110 a^2 h^3 R^{2h} \mathrm{Sin}[2 h \pi]}{1+h} - \frac{224 b^2 h^3 R^{2h} \mathrm{Sin}[2 h \pi]}{1+h} + \frac{25 a^2 h^4 R^{2h} \mathrm{Sin}[2 h \pi]}{1+h} - \frac{49 b^2 h^4 R^{2h} \mathrm{Sin}[2 h \pi]}{1+h}$$

```
C2 = Simplify[%]
```

$$\frac{1}{8 h (-1+h^2)} ((1+2 h) (a^2 (225 - 36 h - 630 h^2 - 180 h^3 + 200 h^4 + 16 h^5) - b^2 (333 - 342 h - 1044 h^2 + 72 h^3 + 512 h^4 + 64 h^5)) R^{2h} \mathrm{Sin}[2 h \pi])$$

■ (10.19) Deduction of parameters $\mathcal{A}$, $\mathcal{B}$, $\mathcal{G}$, $\mathcal{D}$: Solution of algebric system (equipartition of energy and k_1+k_2=α)

```
sol = Solve[{C1 == α * R, C2 == α}, {a, b}]
```

$$\{\{a \to -\frac{1}{\sqrt{225 + 414 h - 702 h^2 - 1440 h^3 - 160 h^4 + 416 h^5 + 32 h^6}} \Big(R^{-h} \sqrt{\mathrm{Csc}[2 h \pi]} \sqrt{(-8 h \alpha + 8 h^3 \alpha + (37 R^{2h} (225 \alpha + 414 h \alpha - 702 h^2 \alpha - 1440 h^3 \alpha - 160 h^4 \alpha + 416 h^5 \alpha + 32 h^6 \alpha + 612 h \pi R^{-2h} \alpha \mathrm{Csc}[2 h \pi] - 612 h^3 \pi R^{-2h} \alpha \mathrm{Csc}[2 h \pi]) \mathrm{Sin}[2 h \pi]) / (6093 \pi + 8757 h \pi - 24867 h^2 \pi - 38016 h^3 \pi + 3256 h^4 \pi + 15280 h^5 \pi + 1552 h^6 \pi) + (36 h R^{2h} (225 \alpha + 414 h \alpha - 702 h^2 \alpha - 1440 h^3 \alpha - 160 h^4 \alpha + 416 h^5 \alpha + 32 h^6 \alpha + 612 h \pi R^{-2h} \alpha \mathrm{Csc}[2 h \pi] - 612 h^3 \pi R^{-2h} \alpha \mathrm{Csc}[2 h \pi]) \mathrm{Sin}[2 h \pi]) / (6093 \pi + 8757 h \pi - 24867 h^2 \pi - 38016 h^3 \pi + 3256 h^4 \pi + 15280 h^5 \pi + 1552 h^6 \pi) - (192 h^2 R^{2h} (225 \alpha + 414 h \alpha - 702 h^2 \alpha - 1440 h^3 \alpha - 160 h^4 \alpha + 416 h^5 \alpha + 32 h^6 \alpha + 612 h \pi R^{-2h} \alpha \mathrm{Csc}[2 h \pi] - 612 h^3 \pi R^{-2h} \alpha \mathrm{Csc}[2 h \pi]) \mathrm{Sin}[2 h \pi]) / (6093 \pi + 8757 h \pi - 24867 h^2 \pi - 38016 h^3 \pi + 3256 h^4 \pi + 15280 h^5 \pi + 1552 h^6 \pi) - (224 h^3 R^{2h} (225 \alpha + 414 h \alpha - 702 h^2 \alpha - 1440 h^3 \alpha - 160 h^4 \alpha + 416 h^5 \alpha + 32 h^6$$

$$\alpha + 612\, h\, \pi\, R^{-2h}\, \alpha\, \mathrm{Csc}[2\, h\, \pi] - 612\, h^3\, \pi\, R^{-2h}\, \alpha\, \mathrm{Csc}[2\, h\, \pi])\ \mathrm{Sin}[2\, h\, \pi])\ /$$
$$(6093\, \pi + 8757\, h\, \pi - 24867\, h^2\, \pi - 38016\, h^3\, \pi + 3256\, h^4\, \pi + 15280\, h^5\, \pi + 1552\, h^6\, \pi) +$$
$$(656\, h^4\, R^{2h}\, (225\, \alpha + 414\, h\, \alpha - 702\, h^2\, \alpha - 1440\, h^3\, \alpha - 160\, h^4\, \alpha + 416\, h^5\, \alpha + 32\, h^6$$
$$\alpha + 612\, h\, \pi\, R^{-2h}\, \alpha\, \mathrm{Csc}[2\, h\, \pi] - 612\, h^3\, \pi\, R^{-2h}\, \alpha\, \mathrm{Csc}[2\, h\, \pi])\ \mathrm{Sin}[2\, h\, \pi])\ /$$
$$(9\, (6093\, \pi + 8757\, h\, \pi - 24867\, h^2\, \pi - 38016\, h^3\, \pi + 3256\, h^4\, \pi + 15280\, h^5\, \pi + 1552\, h^6\, \pi)) +$$
$$(1088\, h^5\, R^{2h}\, (225\, \alpha + 414\, h\, \alpha - 702\, h^2\, \alpha - 1440\, h^3\, \alpha - 160\, h^4\, \alpha + 416\, h^5\, \alpha + 32$$
$$h^6\, \alpha + 612\, h\, \pi\, R^{-2h}\, \alpha\, \mathrm{Csc}[2\, h\, \pi] - 612\, h^3\, \pi\, R^{-2h}\, \alpha\, \mathrm{Csc}[2\, h\, \pi])\ \mathrm{Sin}[2\, h\, \pi])\ /$$
$$(9\, (6093\, \pi + 8757\, h\, \pi - 24867\, h^2\, \pi - 38016\, h^3\, \pi + 3256\, h^4\, \pi + 15280\, h^5\, \pi + 1552\, h^6\, \pi)) +$$
$$(128\, h^6\, R^{2h}\, (225\, \alpha + 414\, h\, \alpha - 702\, h^2\, \alpha - 1440\, h^3\, \alpha - 160\, h^4\, \alpha + 416\, h^5\, \alpha + 32\, h^6$$
$$\alpha + 612\, h\, \pi\, R^{-2h}\, \alpha\, \mathrm{Csc}[2\, h\, \pi] - 612\, h^3\, \pi\, R^{-2h}\, \alpha\, \mathrm{Csc}[2\, h\, \pi])\ \mathrm{Sin}[2\, h\, \pi])\ /\ (9$$
$$(6093\, \pi + 8757\, h\, \pi - 24867\, h^2\, \pi - 38016\, h^3\, \pi + 3256\, h^4\, \pi + 15280\, h^5\, \pi + 1552\, h^6\, \pi)))\Big),$$

$$b \to -\Big(\sqrt{(225\, \alpha + 414\, h\, \alpha - 702\, h^2\, \alpha - 1440\, h^3\, \alpha - 160\, h^4\, \alpha + 416\, h^5\, \alpha + 32\, h^6\, \alpha +}$$
$$612\, h\, \pi\, R^{-2h}\, \alpha\, \mathrm{Csc}[2\, h\, \pi] - 612\, h^3\, \pi\, R^{-2h}\, \alpha\, \mathrm{Csc}[2\, h\, \pi])\Big)\ /$$
$$\Big(3\, \sqrt{6093\, \pi + 8757\, h\, \pi - 24867\, h^2\, \pi - 38016\, h^3\, \pi + 3256\, h^4\, \pi + 15280\, h^5\, \pi + 1552\, h^6\, \pi}\Big)\Big\},$$

$$\Big\{a \to -\frac{1}{\sqrt{225 + 414\, h - 702\, h^2 - 1440\, h^3 - 160\, h^4 + 416\, h^5 + 32\, h^6}}$$
$$\Big(R^{-h}\, \sqrt{\mathrm{Csc}[2\, h\, \pi]}$$
$$\sqrt{(-8\, h\, \alpha + 8\, h^3\, \alpha + (37\, R^{2h}\, (225\, \alpha + 414\, h\, \alpha - 702\, h^2\, \alpha - 1440\, h^3\, \alpha - 160\, h^4\, \alpha + 416\, h^5\, \alpha + 32$$
$$h^6\, \alpha + 612\, h\, \pi\, R^{-2h}\, \alpha\, \mathrm{Csc}[2\, h\, \pi] - 612\, h^3\, \pi\, R^{-2h}\, \alpha\, \mathrm{Csc}[2\, h\, \pi])\ \mathrm{Sin}[2\, h\, \pi])\ /$$
$$(6093\, \pi + 8757\, h\, \pi - 24867\, h^2\, \pi - 38016\, h^3\, \pi + 3256\, h^4\, \pi + 15280\, h^5\, \pi + 1552\, h^6\, \pi) +$$
$$(36\, h\, R^{2h}\, (225\, \alpha + 414\, h\, \alpha - 702\, h^2\, \alpha - 1440\, h^3\, \alpha - 160\, h^4\, \alpha + 416\, h^5\, \alpha + 32\, h^6$$
$$\alpha + 612\, h\, \pi\, R^{-2h}\, \alpha\, \mathrm{Csc}[2\, h\, \pi] - 612\, h^3\, \pi\, R^{-2h}\, \alpha\, \mathrm{Csc}[2\, h\, \pi])\ \mathrm{Sin}[2\, h\, \pi])\ /$$
$$(6093\, \pi + 8757\, h\, \pi - 24867\, h^2\, \pi - 38016\, h^3\, \pi + 3256\, h^4\, \pi + 15280\, h^5\, \pi + 1552\, h^6\, \pi) -$$
$$(192\, h^2\, R^{2h}\, (225\, \alpha + 414\, h\, \alpha - 702\, h^2\, \alpha - 1440\, h^3\, \alpha - 160\, h^4\, \alpha + 416\, h^5\, \alpha + 32\, h^6$$
$$\alpha + 612\, h\, \pi\, R^{-2h}\, \alpha\, \mathrm{Csc}[2\, h\, \pi] - 612\, h^3\, \pi\, R^{-2h}\, \alpha\, \mathrm{Csc}[2\, h\, \pi])\ \mathrm{Sin}[2\, h\, \pi])\ /$$
$$(6093\, \pi + 8757\, h\, \pi - 24867\, h^2\, \pi - 38016\, h^3\, \pi + 3256\, h^4\, \pi + 15280\, h^5\, \pi + 1552\, h^6\, \pi) -$$
$$(224\, h^3\, R^{2h}\, (225\, \alpha + 414\, h\, \alpha - 702\, h^2\, \alpha - 1440\, h^3\, \alpha - 160\, h^4\, \alpha + 416\, h^5\, \alpha + 32\, h^6$$
$$\alpha + 612\, h\, \pi\, R^{-2h}\, \alpha\, \mathrm{Csc}[2\, h\, \pi] - 612\, h^3\, \pi\, R^{-2h}\, \alpha\, \mathrm{Csc}[2\, h\, \pi])\ \mathrm{Sin}[2\, h\, \pi])\ /$$
$$(6093\, \pi + 8757\, h\, \pi - 24867\, h^2\, \pi - 38016\, h^3\, \pi + 3256\, h^4\, \pi + 15280\, h^5\, \pi + 1552\, h^6\, \pi) +$$
$$(656\, h^4\, R^{2h}\, (225\, \alpha + 414\, h\, \alpha - 702\, h^2\, \alpha - 1440\, h^3\, \alpha - 160\, h^4\, \alpha + 416\, h^5\, \alpha + 32\, h^6$$
$$\alpha + 612\, h\, \pi\, R^{-2h}\, \alpha\, \mathrm{Csc}[2\, h\, \pi] - 612\, h^3\, \pi\, R^{-2h}\, \alpha\, \mathrm{Csc}[2\, h\, \pi])\ \mathrm{Sin}[2\, h\, \pi])\ /$$
$$(9\, (6093\, \pi + 8757\, h\, \pi - 24867\, h^2\, \pi - 38016\, h^3\, \pi + 3256\, h^4\, \pi + 15280\, h^5\, \pi + 1552\, h^6\, \pi)) +$$
$$(1088\, h^5\, R^{2h}\, (225\, \alpha + 414\, h\, \alpha - 702\, h^2\, \alpha - 1440\, h^3\, \alpha - 160\, h^4\, \alpha + 416\, h^5\, \alpha + 32$$
$$h^6\, \alpha + 612\, h\, \pi\, R^{-2h}\, \alpha\, \mathrm{Csc}[2\, h\, \pi] - 612\, h^3\, \pi\, R^{-2h}\, \alpha\, \mathrm{Csc}[2\, h\, \pi])\ \mathrm{Sin}[2\, h\, \pi])\ /$$
$$(9\, (6093\, \pi + 8757\, h\, \pi - 24867\, h^2\, \pi - 38016\, h^3\, \pi + 3256\, h^4\, \pi + 15280\, h^5\, \pi + 1552\, h^6\, \pi)) +$$
$$(128\, h^6\, R^{2h}\, (225\, \alpha + 414\, h\, \alpha - 702\, h^2\, \alpha - 1440\, h^3\, \alpha - 160\, h^4\, \alpha + 416\, h^5\, \alpha + 32\, h^6$$
$$\alpha + 612\, h\, \pi\, R^{-2h}\, \alpha\, \mathrm{Csc}[2\, h\, \pi] - 612\, h^3\, \pi\, R^{-2h}\, \alpha\, \mathrm{Csc}[2\, h\, \pi])\ \mathrm{Sin}[2\, h\, \pi])\ /\ (9$$
$$(6093\, \pi + 8757\, h\, \pi - 24867\, h^2\, \pi - 38016\, h^3\, \pi + 3256\, h^4\, \pi + 15280\, h^5\, \pi + 1552\, h^6\, \pi)))\Big),$$

$$b \to \Big(\sqrt{(225\, \alpha + 414\, h\, \alpha - 702\, h^2\, \alpha - 1440\, h^3\, \alpha - 160\, h^4\, \alpha + 416\, h^5\, \alpha + 32\, h^6\, \alpha +}$$
$$612\, h\, \pi\, R^{-2h}\, \alpha\, \mathrm{Csc}[2\, h\, \pi] - 612\, h^3\, \pi\, R^{-2h}\, \alpha\, \mathrm{Csc}[2\, h\, \pi])\Big)\ /$$
$$\Big(3\, \sqrt{6093\, \pi + 8757\, h\, \pi - 24867\, h^2\, \pi - 38016\, h^3\, \pi + 3256\, h^4\, \pi + 15280\, h^5\, \pi + 1552\, h^6\, \pi}\Big)\Big\},$$

$$\Big\{a \to \frac{1}{\sqrt{225 + 414\, h - 702\, h^2 - 1440\, h^3 - 160\, h^4 + 416\, h^5 + 32\, h^6}}$$
$$\Big(R^{-h}$$
$$\sqrt{\mathrm{Csc}[2\, h\, \pi]}$$
$$\sqrt{(-8\, h\, \alpha + 8\, h^3\, \alpha + (37\, R^{2h}\, (225\, \alpha + 414\, h\, \alpha - 702\, h^2\, \alpha - 1440\, h^3\, \alpha - 160\, h^4\, \alpha + 416\, h^5\, \alpha +}$$
$$32\, h^6\, \alpha + 612\, h\, \pi\, R^{-2h}\, \alpha\, \mathrm{Csc}[2\, h\, \pi] - 612\, h^3\, \pi\, R^{-2h}\, \alpha\, \mathrm{Csc}[2\, h\, \pi])\ \mathrm{Sin}[2\, h\, \pi])\ /$$
$$(6093\, \pi + 8757\, h\, \pi - 24867\, h^2\, \pi - 38016\, h^3\, \pi + 3256\, h^4\, \pi + 15280\, h^5\, \pi + 1552\, h^6\, \pi) +$$
$$(36\, h\, R^{2h}\, (225\, \alpha + 414\, h\, \alpha - 702\, h^2\, \alpha - 1440\, h^3\, \alpha - 160\, h^4\, \alpha + 416\, h^5\, \alpha + 32\, h^6\, \alpha +$$
$$612\, h\, \pi\, R^{-2h}\, \alpha\, \mathrm{Csc}[2\, h\, \pi] - 612\, h^3\, \pi\, R^{-2h}\, \alpha\, \mathrm{Csc}[2\, h\, \pi])\ \mathrm{Sin}[2\, h\, \pi])\ /$$
$$(6093\, \pi + 8757\, h\, \pi - 24867\, h^2\, \pi - 38016\, h^3\, \pi + 3256\, h^4\, \pi + 15280\, h^5\, \pi + 1552\, h^6\, \pi) -$$
$$(192\, h^2\, R^{2h}\, (225\, \alpha + 414\, h\, \alpha - 702\, h^2\, \alpha - 1440\, h^3\, \alpha - 160\, h^4\, \alpha + 416\, h^5\, \alpha + 32\, h^6\, \alpha +$$
$$612\, h\, \pi\, R^{-2h}\, \alpha\, \mathrm{Csc}[2\, h\, \pi] - 612\, h^3\, \pi\, R^{-2h}\, \alpha\, \mathrm{Csc}[2\, h\, \pi])\ \mathrm{Sin}[2\, h\, \pi])\ /$$
$$(6093\, \pi + 8757\, h\, \pi - 24867\, h^2\, \pi - 38016\, h^3\, \pi + 3256\, h^4\, \pi + 15280\, h^5\, \pi + 1552\, h^6\, \pi) -$$

$$(224\, h^3 R^{2h} (225\alpha + 414 h\alpha - 702 h^2\alpha - 1440 h^3\alpha - 160 h^4\alpha + 416 h^5\alpha + 32 h^6\alpha + 612 h\pi R^{-2h}\alpha \mathrm{Csc}[2h\pi] - 612 h^3\pi R^{-2h}\alpha \mathrm{Csc}[2h\pi]) \mathrm{Sin}[2h\pi]) / (6093\pi + 8757 h\pi - 24867 h^2\pi - 38016 h^3\pi + 3256 h^4\pi + 15280 h^5\pi + 1552 h^6\pi) + (656\, h^4 R^{2h} (225\alpha + 414 h\alpha - 702 h^2\alpha - 1440 h^3\alpha - 160 h^4\alpha + 416 h^5\alpha + 32 h^6\alpha + 612 h\pi R^{-2h}\alpha \mathrm{Csc}[2h\pi] - 612 h^3\pi R^{-2h}\alpha \mathrm{Csc}[2h\pi]) \mathrm{Sin}[2h\pi]) / (9 (6093\pi + 8757 h\pi - 24867 h^2\pi - 38016 h^3\pi + 3256 h^4\pi + 15280 h^5\pi + 1552 h^6\pi)) + (1088\, h^5 R^{2h} (225\alpha + 414 h\alpha - 702 h^2\alpha - 1440 h^3\alpha - 160 h^4\alpha + 416 h^5\alpha + 32 h^6\alpha + 612 h\pi R^{-2h}\alpha \mathrm{Csc}[2h\pi] - 612 h^3\pi R^{-2h}\alpha \mathrm{Csc}[2h\pi]) \mathrm{Sin}[2h\pi]) / (9 (6093\pi + 8757 h\pi - 24867 h^2\pi - 38016 h^3\pi + 3256 h^4\pi + 15280 h^5\pi + 1552 h^6\pi)) + (128\, h^6 R^{2h} (225\alpha + 414 h\alpha - 702 h^2\alpha - 1440 h^3\alpha - 160 h^4\alpha + 416 h^5\alpha + 32 h^6\alpha + 612 h\pi R^{-2h}\alpha \mathrm{Csc}[2h\pi] - 612 h^3\pi R^{-2h}\alpha \mathrm{Csc}[2h\pi]) \mathrm{Sin}[2h\pi]) / (9 (6093\pi + 8757 h\pi - 24867 h^2\pi - 38016 h^3\pi + 3256 h^4\pi + 15280 h^5\pi + 1552 h^6\pi)))),$$

$$b \to -\left(\sqrt{(225\alpha + 414 h\alpha - 702 h^2\alpha - 1440 h^3\alpha - 160 h^4\alpha + 416 h^5\alpha + 32 h^6\alpha + 612 h\pi R^{-2h}\alpha \mathrm{Csc}[2h\pi] - 612 h^3\pi R^{-2h}\alpha \mathrm{Csc}[2h\pi])}\right) / \left(3\sqrt{6093\pi + 8757 h\pi - 24867 h^2\pi - 38016 h^3\pi + 3256 h^4\pi + 15280 h^5\pi + 1552 h^6\pi}\right)\},$$

$$\{a \to \frac{1}{\sqrt{225 + 414 h - 702 h^2 - 1440 h^3 - 160 h^4 + 416 h^5 + 32 h^6}} \left(R^{-h} \sqrt{\mathrm{Csc}[2h\pi]} \sqrt{(-8 h\alpha + 8 h^3\alpha + (37 R^{2h} (225\alpha + 414 h\alpha - 702 h^2\alpha - 1440 h^3\alpha - 160 h^4\alpha + 416 h^5\alpha + 32 h^6\alpha + 612 h\pi R^{-2h}\alpha \mathrm{Csc}[2h\pi] - 612 h^3\pi R^{-2h}\alpha \mathrm{Csc}[2h\pi]) \mathrm{Sin}[2h\pi]) / (6093\pi + 8757 h\pi - 24867 h^2\pi - 38016 h^3\pi + 3256 h^4\pi + 15280 h^5\pi + 1552 h^6\pi) + (36 h R^{2h} (225\alpha + 414 h\alpha - 702 h^2\alpha - 1440 h^3\alpha - 160 h^4\alpha + 416 h^5\alpha + 32 h^6\alpha + 612 h\pi R^{-2h}\alpha \mathrm{Csc}[2h\pi] - 612 h^3\pi R^{-2h}\alpha \mathrm{Csc}[2h\pi]) \mathrm{Sin}[2h\pi]) / (6093\pi + 8757 h\pi - 24867 h^2\pi - 38016 h^3\pi + 3256 h^4\pi + 15280 h^5\pi + 1552 h^6\pi) - (192 h^2 R^{2h} (225\alpha + 414 h\alpha - 702 h^2\alpha - 1440 h^3\alpha - 160 h^4\alpha + 416 h^5\alpha + 32 h^6\alpha + 612 h\pi R^{-2h}\alpha \mathrm{Csc}[2h\pi] - 612 h^3\pi R^{-2h}\alpha \mathrm{Csc}[2h\pi]) \mathrm{Sin}[2h\pi]) / (6093\pi + 8757 h\pi - 24867 h^2\pi - 38016 h^3\pi + 3256 h^4\pi + 15280 h^5\pi + 1552 h^6\pi) - (224\, h^3 R^{2h} (225\alpha + 414 h\alpha - 702 h^2\alpha - 1440 h^3\alpha - 160 h^4\alpha + 416 h^5\alpha + 32 h^6\alpha + 612 h\pi R^{-2h}\alpha \mathrm{Csc}[2h\pi] - 612 h^3\pi R^{-2h}\alpha \mathrm{Csc}[2h\pi]) \mathrm{Sin}[2h\pi]) / (6093\pi + 8757 h\pi - 24867 h^2\pi - 38016 h^3\pi + 3256 h^4\pi + 15280 h^5\pi + 1552 h^6\pi) + (656\, h^4 R^{2h} (225\alpha + 414 h\alpha - 702 h^2\alpha - 1440 h^3\alpha - 160 h^4\alpha + 416 h^5\alpha + 32 h^6\alpha + 612 h\pi R^{-2h}\alpha \mathrm{Csc}[2h\pi] - 612 h^3\pi R^{-2h}\alpha \mathrm{Csc}[2h\pi]) \mathrm{Sin}[2h\pi]) / (9 (6093\pi + 8757 h\pi - 24867 h^2\pi - 38016 h^3\pi + 3256 h^4\pi + 15280 h^5\pi + 1552 h^6\pi)) + (1088\, h^5 R^{2h} (225\alpha + 414 h\alpha - 702 h^2\alpha - 1440 h^3\alpha - 160 h^4\alpha + 416 h^5\alpha + 32 h^6\alpha + 612 h\pi R^{-2h}\alpha \mathrm{Csc}[2h\pi] - 612 h^3\pi R^{-2h}\alpha \mathrm{Csc}[2h\pi]) \mathrm{Sin}[2h\pi]) / (9 (6093\pi + 8757 h\pi - 24867 h^2\pi - 38016 h^3\pi + 3256 h^4\pi + 15280 h^5\pi + 1552 h^6\pi)) + (128\, h^6 R^{2h} (225\alpha + 414 h\alpha - 702 h^2\alpha - 1440 h^3\alpha - 160 h^4\alpha + 416 h^5\alpha + 32 h^6\alpha + 612 h\pi R^{-2h}\alpha \mathrm{Csc}[2h\pi] - 612 h^3\pi R^{-2h}\alpha \mathrm{Csc}[2h\pi]) \mathrm{Sin}[2h\pi]) / (9 (6093\pi + 8757 h\pi - 24867 h^2\pi - 38016 h^3\pi + 3256 h^4\pi + 15280 h^5\pi + 1552 h^6\pi)))\right),$$

$$b \to \left(\sqrt{(225\alpha + 414 h\alpha - 702 h^2\alpha - 1440 h^3\alpha - 160 h^4\alpha + 416 h^5\alpha + 32 h^6\alpha + 612 h\pi R^{-2h}\alpha \mathrm{Csc}[2h\pi] - 612 h^3\pi R^{-2h}\alpha \mathrm{Csc}[2h\pi])}\right) / \left(3\sqrt{6093\pi + 8757 h\pi - 24867 h^2\pi - 38016 h^3\pi + 3256 h^4\pi + 15280 h^5\pi + 1552 h^6\pi}\right)\}\}$$

- ***coefficients a=a_h and b=b_h for uj_h***
  (the above system has four solutions: (± a, ± b) we chose the fourth one (+a,+b) related to the candidate W)
  A_h = 3 a_h , B_h = 3 b_h

```
Simplify[sol[[4]]]
```

$$\{a \to \left(R^{-h}\sqrt{\mathrm{Csc}[2\,h\,\pi]}\,\sqrt{(((225-36\,h-630\,h^2-180\,h^3+200\,h^4+16\,h^5)\,\alpha\,(1044\,h\,(-1+h^2)\,\pi+(333+324\,h-1728\,h^2-2016\,h^3+656\,h^4+1088\,h^5+128\,h^6)\,R^{2h}\,\mathrm{Sin}[2\,h\,\pi]))/(6093-3429\,h-18009\,h^2-1998\,h^3+7252\,h^4+776\,h^5))}\right)\Big/\left(3\sqrt{225+414\,h-702\,h^2-1440\,h^3-160\,h^4+416\,h^5+32\,h^6}\,\sqrt{\pi}\right),$$
$$b \to \left(\sqrt{(R^{-2h}\,\alpha\,((225+414\,h-702\,h^2-1440\,h^3-160\,h^4+416\,h^5+32\,h^6)\,R^{2h}-612\,h\,(-1+h^2)\,\pi\,\mathrm{Csc}[2\,h\,\pi]))}\right)\Big/\left(3\sqrt{6093+8757\,h-24867\,h^2-38016\,h^3+3256\,h^4+15280\,h^5+1552\,h^6}\,\sqrt{\pi}\right)\}$$

■ *coefficients a and b for u0_h*

```
Evaluate[%] /. h → 0
```

{a → Indeterminate, b → Indeterminate}

{a → Indeterminate, b → Indeterminate}

$$\left\{a \to \sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha},\ b \to \frac{\sqrt{\alpha}}{3\sqrt{193\,\pi}}\right\}$$

$$\left\{a \to \sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha},\ b \to \frac{\sqrt{\alpha}}{3\sqrt{193\,\pi}}\right\}$$

```
u = u /. %
```

$$\frac{\sqrt{\alpha}\,\left(3\,r^{\frac{3}{2}+h}\,\mathrm{Cos}[(-\frac{1}{2}+h)\,t]-7\,r^{\frac{3}{2}+h}\,\mathrm{Cos}[(\frac{3}{2}+h)\,t]\right)}{3\sqrt{193\,\pi}}+\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\,r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-5\,r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)$$

```
Simplify[u]
```

$$\frac{r^{\frac{3}{2}+h}\,\sqrt{\alpha}\,\left(3\,\mathrm{Cos}[(-\frac{1}{2}+h)\,t]-7\,\mathrm{Cos}[(\frac{3}{2}+h)\,t]+\sqrt{21}\,(3\,\mathrm{Sin}[(-\frac{1}{2}+h)\,t]-5\,\mathrm{Sin}[(\frac{3}{2}+h)\,t])\right)}{3\sqrt{193\,\pi}}$$

$$\frac{1}{3\sqrt{193\,\pi}}\left(r^{3/2}\,\sqrt{\lambda}\,\left(3\,\mathrm{Cos}\left[\frac{t}{2}\right]-7\,\mathrm{Cos}\left[\frac{3\,t}{2}\right]+\sqrt{21}\,\left(3\,\mathrm{Sin}\left[\frac{t}{2}\right]-5\,\mathrm{Sin}\left[\frac{3\,t}{2}\right]\right)\right)\right)$$

■ *(10.20) Evaluation of laplacian of the candidates W and Φ (combination of modes at index h=0) : $\Delta_x W$, $\Delta_x \Phi$*

```
lap[u]
```

$$
\begin{aligned}
&\mathrm{Sin}[t]\Bigg(\mathrm{Sin}[t]\\
&\quad\Bigg(\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}+\\
&\quad\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\\
&\qquad\left.5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)+\\
&\quad\frac{1}{r}\Bigg(\mathrm{Cos}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)^{2}\right.\\
&\qquad\left.r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\\
&\qquad\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\Bigg)\Bigg)-\frac{1}{r^{2}}\Bigg(\mathrm{Cos}[t]\\
&\quad\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\\
&\qquad\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\Bigg)\Bigg)\Bigg)+\\
&\mathrm{Cos}[t]\Bigg(\mathrm{Cos}[t]\\
&\quad\Bigg(\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}+\\
&\quad\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\\
&\qquad\left.5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)-\\
&\quad\frac{1}{r}\Bigg(\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)^{2}\right.\\
&\qquad\left.r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\\
&\qquad\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\Bigg)\Bigg)+\frac{1}{r^{2}}\Bigg(\mathrm{Sin}[t]\\
&\quad\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\\
&\qquad\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\Bigg)\Bigg)\Bigg)+\\
&\frac{1}{r}\Bigg(\mathrm{Cos}[t]\Bigg(\mathrm{Cos}[t]\Bigg(\frac{\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}+\\
&\quad\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)+
\end{aligned}
$$

$$\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-\frac{1}{r}\left(\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\right)\right)+\frac{1}{r}\left(\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)\right)-\frac{1}{r}\left(\mathrm{Sin}[t]\left(-\mathrm{Sin}[t]\left(\frac{\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}+\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-\frac{1}{r}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\right)\right)-\frac{1}{r}\left(\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)\right)$$

■ *Evaluation of laplacian of the candidate W (h=1) (u= W with α=1)*

```
Simplify[lap[u]]
```

$$\frac{2\,(1+2\,h)\,r^{-\frac{1}{2}+h}\,\sqrt{\alpha}\,\left(\mathrm{Cos}[(-\frac{1}{2}+h)\,t]+\sqrt{21}\,\mathrm{Sin}[(-\frac{1}{2}+h)\,t]\right)}{\sqrt{193\,\pi}}$$

```
W[r_, t_] := r^(3/2) * ( 1 / ( Sqrt[193 * Pi] ) ) *
                    ( Sqrt[21] * ( Sin[t / 2] - 5 / 3 * Sin[ 3 * t / 2] ) +
                                  ( Cos[t / 2]  - 7 / 3 * Cos[3 * t / 2] )   )
```

```
lap[W[r, t]]
```

$$\mathrm{Sin}[t]\left(\frac{3\,\mathrm{Sin}[t]\left(\mathrm{Cos}[\frac{t}{2}]-\frac{7}{3}\,\mathrm{Cos}[\frac{3t}{2}]+\sqrt{21}\,(\mathrm{Sin}[\frac{t}{2}]-\frac{5}{3}\,\mathrm{Sin}[\frac{3t}{2}])\right)}{4\,\sqrt{193\,\pi}\,\sqrt{r}}+\frac{\mathrm{Cos}[t]\left(\sqrt{21}\,(\frac{1}{2}\,\mathrm{Cos}[\frac{t}{2}]-\frac{5}{2}\,\mathrm{Cos}[\frac{3t}{2}])-\frac{1}{2}\,\mathrm{Sin}[\frac{t}{2}]+\frac{7}{2}\,\mathrm{Sin}[\frac{3t}{2}]\right)}{2\,\sqrt{193\,\pi}\,\sqrt{r}}\right)+$$
$$\mathrm{Cos}[t]\left(\frac{3\,\mathrm{Cos}[t]\left(\mathrm{Cos}[\frac{t}{2}]-\frac{7}{3}\,\mathrm{Cos}[\frac{3t}{2}]+\sqrt{21}\,(\mathrm{Sin}[\frac{t}{2}]-\frac{5}{3}\,\mathrm{Sin}[\frac{3t}{2}])\right)}{4\,\sqrt{193\,\pi}\,\sqrt{r}}-\frac{\mathrm{Sin}[t]\left(\sqrt{21}\,(\frac{1}{2}\,\mathrm{Cos}[\frac{t}{2}]-\frac{5}{2}\,\mathrm{Cos}[\frac{3t}{2}])-\frac{1}{2}\,\mathrm{Sin}[\frac{t}{2}]+\frac{7}{2}\,\mathrm{Sin}[\frac{3t}{2}]\right)}{2\,\sqrt{193\,\pi}\,\sqrt{r}}\right)+$$
$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\frac{3\,\sqrt{r}\,\mathrm{Cos}[t]\left(\mathrm{Cos}[\frac{t}{2}]-\frac{7}{3}\,\mathrm{Cos}[\frac{3t}{2}]+\sqrt{21}\,(\mathrm{Sin}[\frac{t}{2}]-\frac{5}{3}\,\mathrm{Sin}[\frac{3t}{2}])\right)}{2\,\sqrt{193\,\pi}}+\frac{\sqrt{r}\,\mathrm{Sin}[t]\left(\sqrt{21}\,(\frac{1}{2}\,\mathrm{Cos}[\frac{t}{2}]-\frac{5}{2}\,\mathrm{Cos}[\frac{3t}{2}])-\frac{1}{2}\,\mathrm{Sin}[\frac{t}{2}]+\frac{7}{2}\,\mathrm{Sin}[\frac{3t}{2}]\right)}{2\,\sqrt{193\,\pi}}+\frac{\sqrt{r}\,\mathrm{Cos}[t]\left(-\frac{1}{4}\,\mathrm{Cos}[\frac{t}{2}]+\frac{21}{4}\,\mathrm{Cos}[\frac{3t}{2}]+\sqrt{21}\,(-\frac{1}{4}\,\mathrm{Sin}[\frac{t}{2}]+\frac{15}{4}\,\mathrm{Sin}[\frac{3t}{2}])\right)}{\sqrt{193\,\pi}}\right)\right)-$$
$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(-\frac{3\,\sqrt{r}\,\mathrm{Sin}[t]\left(\mathrm{Cos}[\frac{t}{2}]-\frac{7}{3}\,\mathrm{Cos}[\frac{3t}{2}]+\sqrt{21}\,(\mathrm{Sin}[\frac{t}{2}]-\frac{5}{3}\,\mathrm{Sin}[\frac{3t}{2}])\right)}{2\,\sqrt{193\,\pi}}+\frac{\sqrt{r}\,\mathrm{Cos}[t]\left(\sqrt{21}\,(\frac{1}{2}\,\mathrm{Cos}[\frac{t}{2}]-\frac{5}{2}\,\mathrm{Cos}[\frac{3t}{2}])-\frac{1}{2}\,\mathrm{Sin}[\frac{t}{2}]+\frac{7}{2}\,\mathrm{Sin}[\frac{3t}{2}]\right)}{2\,\sqrt{193\,\pi}}-\frac{\sqrt{r}\,\mathrm{Sin}[t]\left(-\frac{1}{4}\,\mathrm{Cos}[\frac{t}{2}]+\frac{21}{4}\,\mathrm{Cos}[\frac{3t}{2}]+\sqrt{21}\,(-\frac{1}{4}\,\mathrm{Sin}[\frac{t}{2}]+\frac{15}{4}\,\mathrm{Sin}[\frac{3t}{2}])\right)}{\sqrt{193\,\pi}}\right)\right)$$

```
Simplify[%]
```

$$\frac{2\left(\mathrm{Cos}[\frac{t}{2}]+\sqrt{21}\,\mathrm{Sin}[\frac{t}{2}]\right)}{\sqrt{193\,\pi}\,\sqrt{r}}$$

■ *Evaluation of laplacian of the candidate Φ (with α=1)*

```
Φ[r_, t_] := r^(3/2) * ( 1 / ( Sqrt[193 * Pi] ) ) *
                    ( Sqrt[21] * ( Sin[t / 2] - 5 / 3 * Sin[ 3 * t / 2] ) -
                                  ( Cos[t / 2]  - 7 / 3 * Cos[3 * t / 2] )   )
```

```
lap[Φ[r, t]]
```

$$\mathrm{Sin}[t]\left(\frac{3\,\mathrm{Sin}[t]\left(-\mathrm{Cos}[\frac{t}{2}]+\frac{7}{3}\mathrm{Cos}[\frac{3t}{2}]+\sqrt{21}\,(\mathrm{Sin}[\frac{t}{2}]-\frac{5}{3}\mathrm{Sin}[\frac{3t}{2}])\right)}{4\sqrt{193\pi}\sqrt{r}}+\frac{\mathrm{Cos}[t]\left(\sqrt{21}\,(\frac{1}{2}\mathrm{Cos}[\frac{t}{2}]-\frac{5}{2}\mathrm{Cos}[\frac{3t}{2}])+\frac{1}{2}\mathrm{Sin}[\frac{t}{2}]-\frac{7}{2}\mathrm{Sin}[\frac{3t}{2}]\right)}{2\sqrt{193\pi}\sqrt{r}}\right)+$$
$$\mathrm{Cos}[t]\left(\frac{3\,\mathrm{Cos}[t]\left(-\mathrm{Cos}[\frac{t}{2}]+\frac{7}{3}\mathrm{Cos}[\frac{3t}{2}]+\sqrt{21}\,(\mathrm{Sin}[\frac{t}{2}]-\frac{5}{3}\mathrm{Sin}[\frac{3t}{2}])\right)}{4\sqrt{193\pi}\sqrt{r}}-\frac{\mathrm{Sin}[t]\left(\sqrt{21}\,(\frac{1}{2}\mathrm{Cos}[\frac{t}{2}]-\frac{5}{2}\mathrm{Cos}[\frac{3t}{2}])+\frac{1}{2}\mathrm{Sin}[\frac{t}{2}]-\frac{7}{2}\mathrm{Sin}[\frac{3t}{2}]\right)}{2\sqrt{193\pi}\sqrt{r}}\right)+$$
$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\frac{3\sqrt{r}\,\mathrm{Cos}[t]\left(-\mathrm{Cos}[\frac{t}{2}]+\frac{7}{3}\mathrm{Cos}[\frac{3t}{2}]+\sqrt{21}\,(\mathrm{Sin}[\frac{t}{2}]-\frac{5}{3}\mathrm{Sin}[\frac{3t}{2}])\right)}{2\sqrt{193\pi}}+\frac{\sqrt{r}\,\mathrm{Sin}[t]\left(\sqrt{21}\,(\frac{1}{2}\mathrm{Cos}[\frac{t}{2}]-\frac{5}{2}\mathrm{Cos}[\frac{3t}{2}])+\frac{1}{2}\mathrm{Sin}[\frac{t}{2}]-\frac{7}{2}\mathrm{Sin}[\frac{3t}{2}]\right)}{2\sqrt{193\pi}}+\frac{\sqrt{r}\,\mathrm{Cos}[t]\left(\frac{1}{4}\mathrm{Cos}[\frac{t}{2}]-\frac{21}{4}\mathrm{Cos}[\frac{3t}{2}]+\sqrt{21}\,(-\frac{1}{4}\mathrm{Sin}[\frac{t}{2}]+\frac{15}{4}\mathrm{Sin}[\frac{3t}{2}])\right)}{\sqrt{193\pi}}\right)\right)-$$
$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(-\frac{3\sqrt{r}\,\mathrm{Sin}[t]\left(-\mathrm{Cos}[\frac{t}{2}]+\frac{7}{3}\mathrm{Cos}[\frac{3t}{2}]+\sqrt{21}\,(\mathrm{Sin}[\frac{t}{2}]-\frac{5}{3}\mathrm{Sin}[\frac{3t}{2}])\right)}{2\sqrt{193\pi}}+\frac{\sqrt{r}\,\mathrm{Cos}[t]\left(\sqrt{21}\,(\frac{1}{2}\mathrm{Cos}[\frac{t}{2}]-\frac{5}{2}\mathrm{Cos}[\frac{3t}{2}])+\frac{1}{2}\mathrm{Sin}[\frac{t}{2}]-\frac{7}{2}\mathrm{Sin}[\frac{3t}{2}]\right)}{2\sqrt{193\pi}}-\frac{\sqrt{r}\,\mathrm{Sin}[t]\left(\frac{1}{4}\mathrm{Cos}[\frac{t}{2}]-\frac{21}{4}\mathrm{Cos}[\frac{3t}{2}]+\sqrt{21}\,(-\frac{1}{4}\mathrm{Sin}[\frac{t}{2}]+\frac{15}{4}\mathrm{Sin}[\frac{3t}{2}])\right)}{\sqrt{193\pi}}\right)\right)$$

```
Simplify[%]
```

$$\frac{2\left(-\mathrm{Cos}[\frac{t}{2}]+\sqrt{21}\,\mathrm{Sin}[\frac{t}{2}]\right)}{\sqrt{193\pi}\sqrt{r}}$$

THE CANDIDATE IS BIHARMONIC

■ (10.21) Evaluation of bi-laplacian of the candidte W (Δ^2 W)

```
lap[lap[u]]
```

$$\mathrm{Sin}[t]\Bigg(\mathrm{Sin}[t]\Bigg(\mathrm{Sin}[t]\Bigg(\mathrm{Sin}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(-\frac{3}{2}+h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{5}{2}+h}\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right)t\Big]-7\left(-\frac{3}{2}+h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{5}{2}+h}\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right)t\Big]\Big)+\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(-\frac{3}{2}+h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{5}{2}+h}\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right)t\Big]-5\left(-\frac{3}{2}+h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{5}{2}+h}\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right)t\Big]\Big)+$$

$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)^2\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$
$$\left.5\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}$$
$$\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$
$$\left.\left.\left.7\left(-\frac{3}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)-$$

$$\frac{1}{r^2}\left(3\,\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\right.\right.\right.$$
$$\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$
$$\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$
$$\left.\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)+$$

$$\frac{1}{r^3}\left(6\,\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$
$$\left.5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)\right.\right.$$
$$\left.\left.\left.r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)-$$

$$\frac{1}{r^4}\left(6\,\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$
$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$
$$\left.\left.\left.\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\right)\right)\right)+$$

$$\mathrm{Cos}[t]\left(\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(-\frac{3}{2}+h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{5}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+\right.\right.\right.\right.\right.$$
$$\left.\left.h\right)t\right]-7\left(-\frac{3}{2}+h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{5}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$
$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{3}{2}+h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{5}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$
$$\left.5\left(-\frac{3}{2}+h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{5}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)-$$

$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)^2\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$
$$\left.5\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}$$
$$\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$
$$\left.\left.\left.7\left(-\frac{3}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)+$$

$$\frac{1}{r^2}\left(3\,\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\right.\right.\right.$$

$$\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$

$$\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\Bigg)-$$

$$\frac{1}{r^3}\left(6\,\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)\right.\right.$$

$$\left.\left.\left.r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\Bigg)+$$

$$\frac{1}{r^4}\left(6\,\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$

$$\left.\left.\left.\frac{\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\,\pi}}\right)\right)\right)\Bigg)+$$

$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\right.\right.\right.\right.$$

$$\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.5\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)+$$

$$\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)^2\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$5\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+\frac{1}{3\sqrt{193\,\pi}}$$

$$\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.7\left(-\frac{3}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\Bigg)-$$

$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\right.\right.\right.\right.$$

$$\left.\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$

$$\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\Bigg)+$$

$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+\right.\right.$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)\Bigg)+$$

$$\frac{1}{r^2}\left(2\,\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)-$$

$$\frac{1}{r^2}\left(2\,\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+\right.\right.$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)\Bigg)-$$

$$\frac{1}{r^3}\left(2\,\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\right)\right)+$$

$$\frac{1}{r^3}\left(2\,\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+\right.\right.$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)\Bigg)\Bigg)-$$

$$\frac{1}{r^2}\left(2\,\mathrm{Cos}[t]\left(\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\right.\right.$$

$$\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$
$$\left.5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}$$
$$\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$
$$\left.\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-$$
$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$
$$\left.5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)\right.\right.$$
$$\left.\left.\left.\left.r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)+$$
$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\left[\right.\right.\right.\right.\right.$$
$$\left.\left.\left.\left.\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$
$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$
$$\left.\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)+$$
$$\frac{1}{r^2}\left(\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$
$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$
$$\left.\left.\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\right)\right)-$$
$$\frac{1}{r^2}\left(\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.\right.$$
$$\left.7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$
$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$
$$\left.\left.\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)+\frac{1}{r^3}\left(2\,\mathrm{Cos}[t]\right.$$
$$\left(\mathrm{Cos}[t]\left(\frac{\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}+\right.\right.$$
$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$
$$\left.\left.5\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$
$$\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)$$

$$r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)-$$

$$\frac{1}{r}\Big(\mathrm{Sin}[t]\Big(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$

$$\frac{\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\,\pi}}\Big)\Big)+$$

$$\frac{1}{r}\Big(\mathrm{Cos}[t]\Big(\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)\Big)-$$

$$\frac{1}{r}\Big(\mathrm{Sin}[t]\Big(-\mathrm{Sin}[t]\Big(\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}$$

$$\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\mathrm{Cos}[t]\Big(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)^2\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+\frac{1}{3\sqrt{193\,\pi}}$$

$$\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$7\left(-\frac{3}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)-$$

$$\frac{1}{r}\Big(\mathrm{Cos}[t]\Big(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\Big[$$

$$\left(-\frac{1}{2}+h\right)t\Big]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$

$$\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)\Big)-$$

$$\frac{1}{r}\Big(\mathrm{Sin}[t]\Big(\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\Big[$$

$$\left(-\frac{1}{2}+h\right) t\Big] - 7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right) t\Big]\Big)\Big) +$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Sin}\Big[$$

$$\left(-\frac{1}{2}+h\right) t\Big] - 5\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right) t\Big]\Big)\Big)\Big) +$$

$$\frac{1}{r^2}\Big(2\,\mathrm{Cos}[t]\Big(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right) t\Big] -$$

$$5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right) t\Big]\Big) + \frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)$$

$$r^{\frac{1}{2}+h}\,\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right) t\Big] - 7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right) t\Big]\Big)\Big)\Big)\Big) +$$

$$\frac{1}{r^2}\Big(2\,\mathrm{Sin}[t]\Big(\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}$$

$$\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right) t\Big] - 7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right) t\Big]\Big)\Big) +$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right) t\Big] -$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right) t\Big]\Big)\Big)\Big) -$$

$$\frac{1}{r^3}\Big(2\,\mathrm{Cos}[t]\Big(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right) t\Big] -$$

$$5\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right) t\Big]\Big) +$$

$$\frac{\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right) t\Big] - 7\left(-\frac{3}{2}-h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right) t\Big]\Big)}{3\sqrt{193\,\pi}}\Big)\Big) -$$

$$\frac{1}{r^3}\Big(2\,\mathrm{Sin}[t]\Big(\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right) t\Big] -$$

$$7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right) t\Big]\Big)\Big) +$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right) t\Big] -$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right) t\Big]\Big)\Big)\Big)\Big) +$$

$$\frac{1}{r^2}\Big(2\,\mathrm{Sin}[t]\Big(-\mathrm{Sin}[t]\Big(\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Cos}\Big[$$

$$\left(-\frac{1}{2}+h\right) t\Big] - 7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right) t\Big]\Big)\Big) +$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right) t\Big] -$$

$$5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right) t\Big]\Big)\Big) +$$

$$\mathrm{Cos}[t]\Big(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right) t\Big] -$$

$$5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+\frac{1}{3\sqrt{193\pi}}$$

$$\Big(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Big)\Big)-$$

$$\frac{1}{r}\Big(\mathrm{Cos}[t]\Big(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)$$

$$r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)\Big)-$$

$$\frac{1}{r}\Big(\mathrm{Sin}[t]\Big(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\Big[$$

$$\left(-\frac{1}{2}+h\right)t\Big]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)+$$

$$\frac{1}{r^2}\Big(\mathrm{Cos}[t]\Big(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$

$$\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\Big)\Big)+$$

$$\frac{1}{r^2}\Big(\mathrm{Sin}[t]\Big(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)\Big)\Big)-\frac{1}{r^3}\Big(2\,\mathrm{Sin}[t]$$

$$\Big(-\mathrm{Sin}[t]\Big(\frac{\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\mathrm{Cos}[t]\Big(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)$$

$$r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)\Bigg)-$$

$$\frac{1}{r}\Bigg(\mathrm{Cos}[t]\Bigg(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Bigg(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)+$$

$$\frac{\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\,\pi}}\Bigg)\Bigg)-$$

$$\frac{1}{r}\Bigg(\mathrm{Sin}[t]\Bigg(\frac{1}{3\sqrt{193\,\pi}}\Bigg(\sqrt{\alpha}\,\Bigg(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Bigg(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)\Bigg)\Bigg)\Bigg)\Bigg)+$$

$$\frac{1}{r}\Bigg(\mathrm{Cos}[t]\Bigg(\mathrm{Cos}[t]\Bigg(\mathrm{Sin}[t]\Bigg(\frac{1}{3\sqrt{193\,\pi}}\Bigg(\sqrt{\alpha}\,\Bigg(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}$$

$$\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Bigg(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)+$$

$$\frac{1}{r}\Bigg(\mathrm{Cos}[t]\Bigg(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Bigg(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}$$

$$\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^{2}r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)+$$

$$\frac{1}{3\sqrt{193\,\pi}}\Bigg(\sqrt{\alpha}\,\Bigg(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)\Bigg)\Bigg)-$$

$$\frac{1}{r^2}\Bigg(2\,\mathrm{Cos}[t]\Bigg(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Bigg(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)^{2}r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)+\frac{1}{3\sqrt{193\,\pi}}\Bigg(\sqrt{\alpha}\,\Bigg(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)$$

$$r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)\Bigg)\Bigg)+$$

$$\frac{1}{r^3}\Bigg(2\,\mathrm{Cos}[t]\Bigg(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Bigg(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)+$$

$$\frac{\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\,\pi}}\Bigg)\Bigg)\Bigg)-$$

$$\mathrm{Sin}[t]\left(\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\right.\right.\right.\right.$$

$$\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.5\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)-$$

$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\right.\right.\right.$$

$$\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2r^{-\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)+$$

$$\frac{1}{r^2}\left(2\,\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)^2r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)\right.\right.$$

$$\left.\left.\left.r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)-$$

$$\frac{1}{r^3}\left(2\,\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\left.\left.\left.\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\right)\right)\right)+$$

$$\mathrm{Sin}[t]\left(\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\right.\right.\right.\right.$$

$$\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.5\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)^2\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.5\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2r^{-\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}$$

$$\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.7\left(-\frac{3}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)-$$

$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)+$$

$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\frac{1}{r^2}\left(2\,\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-$$

$$\frac{1}{r^2}\left(2\,\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-$$

$$\frac{1}{r^3}\left(2\,\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\right)\right)+$$

$$\frac{1}{r^3}\left(2\,\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-$$

$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+\right.\right.\right.\right.$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)+$$

$$\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2r^{-\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\right.$$

$$\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\Bigg)-\frac{1}{r}\Bigg(\mathrm{Sin}[t]$$

$$\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)^2r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.\right.$$

$$\left.\left.\left.\left.\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)+$$

$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.\right.\right.$$

$$\left.\left.\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)\Bigg)+\frac{1}{r^2}\Bigg(\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\pi}}$$

$$\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\Bigg)\Bigg)$$

$$-\frac{1}{r^2}\Bigg(\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Bigg(\sqrt{\alpha}\Bigg(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)$$

$$r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)\Bigg)\Bigg)\Bigg)+\frac{1}{r^2}\Bigg(\mathrm{Sin}[t]$$

$$\Bigg(\mathrm{Cos}[t]\Bigg(\frac{\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)+$$

$$\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)\right.\right.$$

$$\left.\left.\left.r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-$$

$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\left.\left.\frac{\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\,\pi}}\right)\right)$$

$$+\frac{1}{r}\left(\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\right.\right.\right.\right.$$

$$\left.\left.\left.r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)\right)+$$

$$\mathrm{Cos}[t]\left(-\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\right.\right.\right.\right.$$

$$\left.\left.\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.5\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)^2\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.5\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\,\pi}}$$

$$\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.7\left(-\frac{3}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-$$

$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\right.\right.\right.$$

$$\left.\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)+$$

$$\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-$$

$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\right.\right.\right.\right.\right.$$

$$\left.\left.\left.\left.\left.\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+\right.$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\right.\right.$$

$$\left.\left.\left.\left.\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)+$$

$$\frac{1}{r^2}\left(2\,\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)\right.\right.$$

$$\left.\left.\left.\left.r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)+$$

$$\frac{1}{r^2}\left(2\,\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.\right.\right.$$

$$\left.\left.\left.\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+\right.$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-$$

$$\frac{1}{r^3}\left(2\,\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\left.\left.\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\right)\right)-$$

$$\frac{1}{r^3}\left(2\,\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.\right.$$

$$\left.7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)-$$

$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(-\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\right.\right.\right.\right.\right.$$

$$\left.\left.\left.\left.\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+\right.$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-\frac{1}{r}\left(\mathrm{Cos}[t]\right.$$

$$\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)^2\right.\right.$$

$$\left.r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.$$

$$\left.\left.\left.\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)-$$

$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.\right.\right.$$

$$\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)+\frac{1}{r^2}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\right.\right.$$

$$\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\left.\left.\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\right)\right)$$

$$+\frac{1}{r^2}\left(\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\right.\right.\right.\right.$$

$$\left.r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)\right)+\frac{1}{r^2}\left(\mathrm{Cos}[t]\right.$$

$$\left(-\mathrm{Sin}[t]\left(\frac{\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}+\right.\right.$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$
$$\left.5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)\right.\right.$$
$$\left.\left.\left.r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-$$
$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$
$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$
$$\left.\left.\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\right)\right)$$
$$-\frac{1}{r}\left(\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\right.\right.\right.\right.$$
$$\left.\left.\left.r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$
$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$
$$\left.\left.\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)\right)+$$
$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(-\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Cos}\left[\right.\right.\right.\right.\right.$$
$$\left.\left.\left.\left.\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$
$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$
$$\left.\left.5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$
$$2\,\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\right.\right.$$
$$\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$
$$\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$
$$\left.\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)+$$
$$\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Cos}\left[\right.\right.\right.\right.$$
$$\left.\left.\left.\left.\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$
$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\left[\right.\right.$$
$$\left.\left.\left.\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)-$$

$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)-$$

$$\frac{1}{r}\left(2\,\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.\right.\right.$$

$$\left.\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)+$$

$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.\right.$$

$$\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^3 r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.\left.7\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)+$$

$$\frac{1}{r^2}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\left.\left.\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\right)\right)$$

$$+\frac{1}{r^2}\left(2\,\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\right.\right.\right.\right.$$

$$\left.\left.r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-$$

$$\frac{1}{r^2}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2 r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$7\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)\Big)\Big)\Big)-\frac{1}{r^2}\Big(\mathrm{Cos}[t]$$

$$\Big(-\mathrm{Sin}[t]\Big(\frac{\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Big)+$$

$$2\,\mathrm{Cos}[t]\Big(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(\frac{3}{2}+h\right)^2r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)\right.$$

$$\left.r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Big)\Big)+$$

$$\mathrm{Sin}[t]\Big(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\Big[\right.$$

$$\left.\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Big)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Big)-\frac{1}{r}\Big(\mathrm{Cos}[t]\Big(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}$$

$$\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\Big)\Big)$$

$$-\frac{1}{r}\Big(2\,\mathrm{Sin}[t]\Big(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\right.$$

$$\left.r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Big)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Big)\Big)+$$

$$\frac{1}{r}\Big(\mathrm{Cos}[t]\Big(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.7\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Big)\Big)\Big)\Big)\Big)\Big)-$$

$$\frac{1}{r}\Big(\mathrm{Sin}[t]\Big(-\mathrm{Cos}[t]\Big(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\Big[\right.$$

$$\left(-\frac{1}{2}+h\right) t\Big] - 7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right) t\Big]\Big)\Big) +$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right) t\Big] -$$

$$5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right) t\Big]\Big)\Big) -$$

$$2\,\mathrm{Sin}[t]\,\Big(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}$$

$$\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right) t\Big] - 5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right) t\Big]\Big) +$$

$$\frac{1}{3\sqrt{193\,\pi}}\,\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right) t\Big] -$$

$$7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right) t\Big]\Big)\Big)\Big) +$$

$$\mathrm{Cos}[t]\,\Big(\frac{1}{3\sqrt{193\,\pi}}\,\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Cos}\Big[$$

$$\left(-\frac{1}{2}+h\right) t\Big] - 7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right) t\Big]\Big)\Big) +$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Sin}\Big[$$

$$\left(-\frac{1}{2}+h\right) t\Big] - 5\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right) t\Big]\Big)\Big) +$$

$$\frac{1}{r}\,\Big(\mathrm{Sin}[t]\,\Big(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right) t\Big] -$$

$$5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right) t\Big]\Big) +$$

$$\frac{1}{3\sqrt{193\,\pi}}\,\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right) t\Big] -$$

$$7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right) t\Big]\Big)\Big)\Big) -$$

$$\frac{1}{r}\,\Big(2\,\mathrm{Cos}[t]\,\Big(\frac{1}{3\sqrt{193\,\pi}}\,\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}$$

$$\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right) t\Big] - 7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right) t\Big]\Big)\Big) +$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right) t\Big] -$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right) t\Big]\Big)\Big)\Big) -$$

$$\frac{1}{r}\,\Big(\mathrm{Sin}[t]\,\Big(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}$$

$$\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right) t\Big] - 5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^3 r^{\frac{1}{2}+h}\,\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right) t\Big]\Big) +$$

$$\frac{1}{3\sqrt{193\,\pi}}\,\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right) t\Big] -$$

$$7\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)\Big) -$$

$$\frac{1}{r^2}\Bigg(\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\Bigg)\Bigg)$$

$$+\frac{1}{r^2}\Bigg(2\,\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)$$

$$r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)\Bigg)+$$

$$\frac{1}{r^2}\Bigg(\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$7\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Bigg)\Bigg)\Bigg)\Bigg)+\frac{1}{r^2}\Bigg(\mathrm{Sin}[t]$$

$$\Bigg(-\mathrm{Cos}[t]\Bigg(\frac{\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)-$$

$$2\,\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)$$

$$r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Bigg)+$$

$$\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\Big[$$

$$\left(-\frac{1}{2}+h\right)t\Big]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)+\frac{1}{r}\Bigg(\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}$$

$$\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\Bigg)\Bigg)$$

$$-\frac{1}{r}\Bigg(2\,\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Bigg(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\right.$$

$$\left.r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)\Bigg)-$$

$$\frac{1}{r}\Bigg(\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{1}{3\sqrt{193\pi}}\Bigg(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.7\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)\Bigg)\Bigg)\Bigg)\Bigg)\Bigg)-$$

$$\frac{1}{r^2}\Bigg(\mathrm{Cos}[t]\Bigg(\mathrm{Cos}[t]\Bigg(\mathrm{Sin}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Bigg(\sqrt{\alpha}\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\right.$$

$$\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)+$$

$$\frac{1}{r}\Bigg(\mathrm{Cos}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\Bigg(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)\right.$$

$$\left.r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)\Bigg)\Bigg)-$$

$$\frac{1}{r^2}\Bigg(\mathrm{Cos}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\Bigg)\Bigg)\Bigg)-$$

$$\mathrm{Sin}[t]\Bigg(\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Bigg(\sqrt{\alpha}\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}+h\right)\Big(\frac{3}{2}+$$

$$h\Big)\,r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Bigg)-$$

$$\frac{1}{r}\Bigg(\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)$$

$$r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Bigg)\Bigg)+$$

$$\frac{1}{r^2}\Bigg(\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$

$$\frac{\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\,\pi}}\Bigg)\Bigg)\Bigg)+$$

$$\mathrm{Sin}[t]\Bigg(\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}+h\right)\Big(\frac{3}{2}+$$

$$h\Big)\,r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Bigg)+$$

$$\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+\frac{1}{3\sqrt{193\,\pi}}$$

$$\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Bigg)-$$

$$\frac{1}{r}\Bigg(\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)$$

$$r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Bigg)\Bigg)+$$

$$\frac{1}{r}\Bigg(\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\Big[$$

$$\left(-\frac{1}{2}+h\right)t\Big]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)\Bigg)+$$

$$\frac{1}{r^2}\Bigg(\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\Bigg)\Bigg)-$$

$$\frac{1}{r^2}\Bigg(\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)\Bigg)\Bigg)-\frac{1}{r}\Bigg(\mathrm{Sin}[t]$$

$$\Bigg(\mathrm{Cos}[t]\Bigg(\frac{\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)+$$

$$\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)\right.\right.$$

$$\left.\left.r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\Bigg)-$$

$$\frac{1}{r}\Bigg(\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\Bigg)\Bigg)$$

$$+\frac{1}{r}\Bigg(\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\right.\right.$$

$$\left.\left.r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)\Bigg)\Bigg)\Bigg)+$$

$$\mathrm{Cos}[t]\Bigg(-\mathrm{Sin}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}+h\right)\Big(\frac{3}{2}+$$

$$h\Big)\,r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Bigg)+$$

$$\mathrm{Cos}[t]\,\Bigg(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+\frac{1}{3\sqrt{193\,\pi}}$$

$$\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Bigg)-$$

$$\frac{1}{r}\Bigg(\mathrm{Cos}[t]\,\Bigg(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+\frac{1}{3\sqrt{193\,\pi}}\,\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)$$

$$r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Bigg)\Bigg)-$$

$$\frac{1}{r}\Bigg(\mathrm{Sin}[t]\,\Bigg(\frac{1}{3\sqrt{193\,\pi}}\,\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\Big[$$

$$\left(-\frac{1}{2}+h\right)t\Big]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Bigg)\Bigg)+$$

$$\frac{1}{r^2}\Bigg(\mathrm{Cos}[t]\,\Bigg(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$

$$\frac{\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\,\pi}}\Bigg)\Bigg)+$$

$$\frac{1}{r^2}\Bigg(\mathrm{Sin}[t]\,\Bigg(\frac{1}{3\sqrt{193\,\pi}}\,\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Bigg)\Bigg)\Bigg)-\frac{1}{r}\Bigg(\mathrm{Cos}[t]$$

$$\Bigg(-\mathrm{Sin}[t]\,\Bigg(\frac{\sqrt{\alpha}\,\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\,\pi}}+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h} \operatorname{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Big) +$$

$$\operatorname{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\operatorname{Cos}\left[\left(-\frac{1}{2}+h\right) t\right] - 5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\operatorname{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\right) + \frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\operatorname{Sin}\left[\left(-\frac{1}{2}+h\right) t\right] - 7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\operatorname{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\right)\right)\right) -$$

$$\frac{1}{r}\left(\operatorname{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\operatorname{Cos}\left[\left(-\frac{1}{2}+h\right) t\right] - 5\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\operatorname{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\right) + \frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right) r^{\frac{3}{2}+h}\operatorname{Sin}\left[\left(-\frac{1}{2}+h\right) t\right] - 7\left(-\frac{3}{2}-h\right) r^{\frac{3}{2}+h}\operatorname{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\right)}{3\sqrt{193\pi}}\right)\right)$$

$$-\frac{1}{r}\left(\operatorname{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\operatorname{Cos}\left[\left(-\frac{1}{2}+h\right) t\right] - 7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\operatorname{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\right)\right) + \sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\operatorname{Sin}\left[\left(-\frac{1}{2}+h\right) t\right] - 5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\operatorname{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\right)\right)\right)\right) + \frac{1}{r}\left(\operatorname{Cos}[t]\right.$$

$$\left(-\operatorname{Sin}[t]\left(\frac{\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\operatorname{Cos}\left[\left(-\frac{1}{2}+h\right) t\right] - 7\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\operatorname{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\right)}{3\sqrt{193\pi}} + \sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\operatorname{Sin}\left[\left(-\frac{1}{2}+h\right) t\right] - 5\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\operatorname{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\right)\right) +$$

$$2\operatorname{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\operatorname{Cos}\left[\left(-\frac{1}{2}+h\right) t\right] - 5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\operatorname{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\right) + \frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\operatorname{Sin}\left[\left(-\frac{1}{2}+h\right) t\right] - 7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\operatorname{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\right)\right)\right) +$$

$$\operatorname{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\operatorname{Cos}\left[\left(-\frac{1}{2}+h\right) t\right] - 7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\operatorname{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\right)\right) + \sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\operatorname{Sin}\left[\left(-\frac{1}{2}+h\right) t\right] - 5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\operatorname{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\right)\right) - \frac{1}{r}\left(\operatorname{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\right.\right.$$

$$\left(3\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\operatorname{Cos}\left[\left(-\frac{1}{2}+h\right) t\right] - 5\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\operatorname{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\right) +$$

$$\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-7\left(-\frac{3}{2}-h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\right)}{3\sqrt{193\,\pi}}\Bigg)\Bigg)$$

$$-\frac{1}{r}\Bigg(2\,\mathrm{Sin}[t]\Bigg(\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)$$

$$r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Bigg)\Bigg)+$$

$$\frac{1}{r}\Bigg(\mathrm{Cos}[t]\Bigg(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Big)+$$

$$\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-$$

$$7\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Big)\Bigg)\Bigg)\Bigg)\Bigg)-\frac{1}{r}\Bigg(\mathrm{Sin}[t]$$

$$\Bigg(-\mathrm{Cos}[t]\Bigg(\frac{\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-7\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\right)}{3\sqrt{193\,\pi}}+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\Big(3\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-$$

$$5\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Bigg)-$$

$$2\,\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-$$

$$5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Big)+\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)$$

$$r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Big)\Bigg)+$$

$$\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Cos}\Big[$$

$$\left(-\frac{1}{2}+h\right) t\Big]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Bigg)+\frac{1}{r}\Bigg(\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}$$

$$\Big(3\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-5\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Big)+$$

$$\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-7\left(-\frac{3}{2}-h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\right)}{3\sqrt{193\,\pi}}\Bigg)\Bigg)$$

$$-\frac{1}{r}\Bigg(2\,\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)$$

$$r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)-$$

$$\frac{1}{r}\Big(\mathrm{Sin}[t]\Big(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$

$$\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$7\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)\Big)\Big)\Big)\Big)\Big)+$$

$$\mathrm{Cos}[t]\Big(\mathrm{Cos}[t]\Big(\mathrm{Sin}[t]\Big(\mathrm{Sin}[t]\Big(\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(-\frac{3}{2}+h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)$$

$$\left(\frac{3}{2}+h\right)r^{-\frac{5}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$7\left(-\frac{3}{2}+h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{5}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{3}{2}+h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{5}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{3}{2}+h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{5}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\frac{1}{r}\Big(\mathrm{Cos}[t]\Big(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)^2\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+\frac{1}{3\sqrt{193\,\pi}}$$

$$\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$7\left(-\frac{3}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)\Big)-$$

$$\frac{1}{r^2}\Big(3\,\mathrm{Cos}[t]\Big(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}$$

$$\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$

$$\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)\Big)+$$

$$\frac{1}{r^3}\Big(6\,\mathrm{Cos}[t]\Big(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)$$

$$r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)\Big)-$$

$$\frac{1}{r^4}\left(6\,\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\,\pi}}\right)\right)\right)+$$

$$\mathrm{Cos}[t]\left(\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(-\frac{3}{2}+h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{5}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}+h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{5}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(-\frac{3}{2}+h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{5}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}+h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{5}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)-$$

$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)^2\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2r^{-\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)+$$

$$\frac{1}{r^2}\left(3\,\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-$$

$$\frac{1}{r^3}\left(6\,\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)^2r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)+$$

$$\frac{1}{r^4}\left(6\,\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\,\pi}}\right)\right)\right)+$$

$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+\right.\right.\right.$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$
$$\left.5\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)+$$
$$\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)^2\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$
$$\left.5\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2r^{-\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}$$
$$\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$
$$\left.\left.\left.7\left(-\frac{3}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-$$
$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\right.\right.\right.\right.$$
$$\left.\left.\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$
$$\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$
$$\left.\left.\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)+$$
$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\right.\right.\right.\right.\right.$$
$$\left.\left.\left.\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$
$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\right.\right.$$
$$\left.\left.\left.\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)+$$
$$\frac{1}{r^2}\left(2\,\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$
$$\left.5\left(\frac{3}{2}+h\right)^2r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)\right.\right.$$
$$\left.\left.\left.\left.r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)-$$
$$\frac{1}{r^2}\left(2\,\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.\right.\right.$$
$$\left.\left.\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$
$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$
$$\left.\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-$$
$$\frac{1}{r^3}\left(2\,\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$5\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Big) +$$

$$\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-7\left(-\frac{3}{2}-h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\right)}{3\sqrt{193\,\pi}}\Bigg)\Bigg) +$$

$$\frac{1}{r^3}\Bigg(2\,\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-\right.$$

$$\left.7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\right)\Big) +$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-\right.$$

$$\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\right)\Bigg)\Bigg)\Bigg) -$$

$$\frac{1}{r^2}\Bigg(2\,\mathrm{Cos}[t]\Bigg(\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-\right.$$

$$\left.7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\right)\Big) +\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+\right.\right.$$

$$\left.\left.h\right) r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\right)\Bigg) +$$

$$\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-\right.$$

$$\left.5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\right)+\frac{1}{3\sqrt{193\,\pi}}$$

$$\Big(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-\right.$$

$$\left.7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\right)\Big)\Bigg) -$$

$$\frac{1}{r}\Bigg(\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-\right.$$

$$\left.5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\right)+\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)\right.$$

$$\left.r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\right)\Big)\Bigg)\Bigg) +$$

$$\frac{1}{r}\Bigg(\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Cos}\Big[\right.$$

$$\left.\left(-\frac{1}{2}+h\right) t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\right)\Big) +$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-\right.$$

$$\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\right)\Bigg)\Bigg) +$$

$$\frac{1}{r^2}\Bigg(\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-\right.$$

$$\left.5\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\right) +$$

$$\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-7\left(-\frac{3}{2}-h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\right)}{3\sqrt{193\,\pi}}\Bigg)\Bigg)-$$

$$\frac{1}{r^2}\Bigg(\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-$$

$$7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Bigg)\Bigg)\Bigg)\Bigg)+\frac{1}{r^3}\Bigg(2\,\mathrm{Cos}[t]$$

$$\Bigg(\mathrm{Cos}[t]\Bigg(\frac{\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-7\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\right)}{3\sqrt{193\,\pi}}+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\Big(3\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-$$

$$5\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Bigg)+$$

$$\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-$$

$$5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Big)+\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)$$

$$r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Big)\Bigg)-$$

$$\frac{1}{r}\Bigg(\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-$$

$$5\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Big)+$$

$$\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-7\left(-\frac{3}{2}-h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\right)}{3\sqrt{193\,\pi}}\Bigg)\Bigg)+$$

$$\frac{1}{r}\Bigg(\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-$$

$$7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Bigg)\Bigg)\Bigg)-$$

$$\frac{1}{r}\Bigg(\mathrm{Sin}[t]\Bigg(-\mathrm{Sin}[t]\Bigg(\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{3}{2}+h}$$

$$\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-7\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-$$

$$5\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Bigg)+$$

$$\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)^2\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$
$$\left.5\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}$$
$$\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$
$$\left.\left.\left.7\left(-\frac{3}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-$$
$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Cos}\left[\right.\right.\right.\right.$$
$$\left.\left.\left.\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$
$$\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$
$$\left.\left.\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)-$$
$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Cos}\left[\right.\right.\right.\right.\right.$$
$$\left.\left.\left.\left.\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$
$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\left[\right.\right.$$
$$\left.\left.\left.\left.\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)+$$
$$\frac{1}{r^2}\left(2\,\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$
$$\left.5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)\right.\right.$$
$$\left.\left.\left.\left.r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)+$$
$$\frac{1}{r^2}\left(2\,\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.\right.\right.$$
$$\left.\left.\left.\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+\right.$$
$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$
$$\left.\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-$$
$$\frac{1}{r^3}\left(2\,\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$
$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$
$$\left.\left.\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\right)\right)-$$

$$\frac{1}{r^3}\left(2\,\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.\right.$$
$$\left.7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$
$$\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$
$$\left.\left.\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)\right)+$$

$$\frac{1}{r^2}\left(2\,\mathrm{Sin}[t]\left(-\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\right.\right.\right.\right.\right.$$
$$\left.\left.\left.\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$
$$\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$
$$\left.\left.5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$
$$\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$
$$\left.5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}$$
$$\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$
$$\left.\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-$$

$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$
$$\left.5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)\right.\right.$$
$$\left.\left.\left.\left.r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)-$$

$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\right.\right.\right.\right.\right.$$
$$\left.\left.\left.\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$
$$\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$
$$\left.\left.\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)+$$

$$\frac{1}{r^2}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$
$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$
$$\left.\left.\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\right)\right)+$$

$$\frac{1}{r^2}\left(\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.\right.\right.$$

$$\left.7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.\left.\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)\right)-\frac{1}{r^3}\left(2\,\mathrm{Sin}[t]\right.$$

$$\left(-\mathrm{Sin}[t]\left(\frac{\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}+\right.\right.$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.5\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)^2r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)\right.\right.$$

$$\left.\left.\left.r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-$$

$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\left.\left.\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\right)\right)-$$

$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.\right.\right.$$

$$\left.7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.\left.\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)\right)-$$

$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(\mathrm{Cos}[t]\left(\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\right.\right.\right.\right.\right.$$

$$\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.5\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\right.\right.\right.$$

$$\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$

$$\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\Bigg)\Bigg)-$$

$$\frac{1}{r^2}\left(2\,\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)\right.\right.$$

$$\left.\left.\left.r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)+$$

$$\frac{1}{r^3}\left(2\,\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\left.\left.\left.\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\right)\right)\right)-$$

$$\mathrm{Sin}[t]\left(\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\right.\right.\right.\right.$$

$$\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.5\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)-$$

$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\right.\right.\right.$$

$$\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$

$$\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)+$$

$$\frac{1}{r^2}\left(2\,\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)\right.\right.$$

$$\left.\left.\left.r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)-$$

$$\frac{1}{r^3}\left(2\,\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-7\left(-\frac{3}{2}-h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\right)}{3\sqrt{193\pi}}\Bigg)\Bigg)\Bigg)+$$

$$\mathrm{Sin}[t]\Bigg(\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{3}{2}+h}$$

$$\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-7\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-$$

$$5\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Bigg)+$$

$$\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)^2\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-$$

$$5\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Big)+\frac{1}{3\sqrt{193\pi}}$$

$$\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-$$

$$7\left(-\frac{3}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Big)\Bigg)-$$

$$\frac{1}{r}\Bigg(\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Cos}\Big[$$

$$\left(-\frac{1}{2}+h\right) t\Big]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Big)+$$

$$\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-$$

$$7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Big)\Bigg)\Bigg)+$$

$$\frac{1}{r}\Bigg(\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Cos}\Big[$$

$$\left(-\frac{1}{2}+h\right) t\Big]-7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Sin}\Big[$$

$$\left(-\frac{1}{2}+h\right) t\Big]-5\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Bigg)\Bigg)+$$

$$\frac{1}{r^2}\Bigg(2\,\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-$$

$$5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Big)+\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)$$

$$r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Big)\Bigg)\Bigg)-$$

$$\frac{1}{r^2}\Bigg(2\,\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}$$

$$\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^{2}r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)\Bigg)-$$

$$\frac{1}{r^{3}}\left(2\,\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\left.\left.\frac{\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\,\pi}}\right)\right)+$$

$$\frac{1}{r^{3}}\left(2\,\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.\right.$$

$$\left.7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)-$$

$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\right.\right.\right.\right.\right.\right.$$

$$\left.\left.\left.\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^{2}r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-$$

$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)^{2}r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)+$$

$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.\right.\right.$$

$$\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)+$$

$$\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\,\Bigg(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)+\frac{1}{r^2}\Bigg(\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\pi}}$$

$$\sqrt{\alpha}\,\Bigg(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)+$$

$$\frac{\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\Bigg)\Bigg)$$

$$-\frac{1}{r^2}\Bigg(\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Bigg(\sqrt{\alpha}\,\Bigg(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)$$

$$r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)+$$

$$\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\,\Bigg(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)\Bigg)\Bigg)\Bigg)+\frac{1}{r^2}\Bigg(\mathrm{Sin}[t]$$

$$\Bigg(\mathrm{Cos}[t]\Bigg(\frac{\sqrt{\alpha}\,\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}+$$

$$\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\,\Bigg(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)+$$

$$\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\,\Bigg(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)+\frac{1}{3\sqrt{193\pi}}\Bigg(\sqrt{\alpha}\,\Bigg(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)$$

$$r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)\Bigg)-$$

$$\frac{1}{r}\Bigg(\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\,\Bigg(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)+$$

$$\frac{\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\Bigg)\Bigg)$$

$$+\frac{1}{r}\Bigg(\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Bigg(\sqrt{\alpha}\,\Bigg(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)$$

$$r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)+$$

$$\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\,\Bigg(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)\Bigg)\Bigg)\Bigg)+$$

$$\mathrm{Cos}[t]\left(-\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\right.\right.\right.\right.$$

$$\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.5\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)^2\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.5\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2r^{-\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}$$

$$\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.7\left(-\frac{3}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-$$

$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Cos}\right.\right.\right.$$

$$\left.\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2r^{-\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)-$$

$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Cos}\right.\right.\right.\right.$$

$$\left.\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2r^{-\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\right.$$

$$\left.\left.\left.\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2r^{-\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)+$$

$$\frac{1}{r^2}\left(2\,\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)^2r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)\right.\right.$$

$$\left.\left.\left.r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)+$$

$$\frac{1}{r^2}\left(2\,\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.\right.\right.$$

$$\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big) -$$

$$\frac{1}{r^3}\Bigg(2\,\mathrm{Cos}[t]\Bigg(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right] -$$

$$5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big) +$$

$$\frac{\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\,\pi}}\Bigg)\Bigg) -$$

$$\frac{1}{r^3}\Bigg(2\,\mathrm{Sin}[t]\Bigg(\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right] -$$

$$7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big) +$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right] -$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big) -$$

$$\frac{1}{r}\Bigg(\mathrm{Cos}[t]\Bigg(-\mathrm{Sin}[t]\Bigg(\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\Big[$$

$$\left(-\frac{1}{2}+h\right)t\Big]-7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big) +$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right] -$$

$$5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Bigg) +$$

$$\mathrm{Cos}[t]\Bigg(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right] -$$

$$5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg) +$$

$$\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right] -$$

$$7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Bigg) - \frac{1}{r}\Bigg(\mathrm{Cos}[t]$$

$$\Bigg(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)^2$$

$$r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big) + \frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}$$

$$\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Bigg) -$$

$$\frac{1}{r}\Bigg(\mathrm{Sin}[t]\Bigg(\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}$$

$$\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big) +$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right] -$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)\Bigg)+\frac{1}{r^2}\Bigg(\mathrm{Cos}[t]\Bigg(\sqrt{\frac{7}{579\pi}}$$

$$\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\Bigg)\Bigg)$$

$$+\frac{1}{r^2}\Bigg(\mathrm{Sin}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Bigg(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\right.$$

$$\left.r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)\Bigg)\Bigg)+\frac{1}{r^2}\Bigg(\mathrm{Cos}[t]$$

$$\Bigg(-\mathrm{Sin}[t]\Bigg(\frac{\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)+$$

$$\mathrm{Cos}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\Bigg(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)\right.$$

$$\left.r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)\Bigg)-$$

$$\frac{1}{r}\Bigg(\mathrm{Cos}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\Bigg)\Bigg)$$

$$-\frac{1}{r}\Bigg(\mathrm{Sin}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Bigg(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\right.$$

$$\left.r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)\Bigg)\Bigg)+$$

$$\frac{1}{r}\Bigg(\mathrm{Cos}[t]\Bigg(-\mathrm{Sin}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Bigg(\sqrt{\alpha}\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\Big[\right.$$

$$\left.\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)+$$

$$2\,\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\right.\right.$$

$$\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)+$$

$$\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)+$$

$$\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\Big[\right.\right.\right.$$

$$\left.\left.\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\Big[\right.$$

$$\left.\left.\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)-$$

$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)-$$

$$\frac{1}{r}\left(2\,\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.\right.\right.$$

$$\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)+$$

$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.\right.$$

$$\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^3 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.\left.7\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)+$$

$$\frac{1}{r^2}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\left.\left.\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\right)\right)$$

$$+\frac{1}{r^2}\left(2\,\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\right.\right.\right.\right.$$

$$\left.r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-$$

$$\frac{1}{r^2}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.\left.\left.7\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)\right)-\frac{1}{r^2}\left(\mathrm{Cos}[t]\right.$$

$$\left(-\mathrm{Sin}[t]\left(\frac{\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}+\right.\right.$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.5\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$2\,\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)^2r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)\right.\right.$$

$$\left.\left.\left.r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)+$$

$$\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\right.\right.\right.$$

$$\left.\left.\left.\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)-\frac{1}{r}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\right.\right.$$

$$\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-7\left(-\frac{3}{2}-h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\right)}{3\sqrt{193\,\pi}}\Bigg)\Bigg)$$

$$-\frac{1}{r}\Bigg(2\,\mathrm{Sin}[t]\Bigg(\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)$$

$$r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Bigg)\Bigg)+$$

$$\frac{1}{r}\Bigg(\mathrm{Cos}[t]\Bigg(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Big)+$$

$$\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-$$

$$7\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Big)\Bigg)\Bigg)\Bigg)\Bigg)-$$

$$\frac{1}{r}\Bigg(\mathrm{Sin}[t]\Bigg(-\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Cos}\Big[$$

$$\left(-\frac{1}{2}+h\right) t\Big]-7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\Big(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-$$

$$5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Bigg)-$$

$$2\,\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}$$

$$\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Big)+$$

$$\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-$$

$$7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Big)\Bigg)+$$

$$\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Cos}\Big[$$

$$\left(-\frac{1}{2}+h\right) t\Big]-7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Sin}\Big[$$

$$\left(-\frac{1}{2}+h\right) t\Big]-5\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Bigg)+$$

$$\frac{1}{r}\Bigg(\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-$$

$$5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$
$$\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$
$$7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)\Big)-$$
$$\frac{1}{r}\Big(2\,\mathrm{Cos}[t]\Big(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}$$
$$\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$
$$\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$
$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)-$$
$$\frac{1}{r}\Big(\mathrm{Sin}[t]\Big(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}$$
$$\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^3 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$
$$\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$
$$7\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)\Big)-$$
$$\frac{1}{r^2}\Big(\mathrm{Sin}[t]\Big(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$
$$5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$
$$\frac{\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\Big)\Big)$$
$$+\frac{1}{r^2}\Big(2\,\mathrm{Cos}[t]\Big(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)$$
$$r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$
$$\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$
$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$
$$\frac{1}{r^2}\Big(\mathrm{Sin}[t]\Big(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$
$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$
$$\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$
$$7\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)\Big)\Big)\Big)+\frac{1}{r^2}\Big(\mathrm{Sin}[t]$$

$$\left(-\mathrm{Cos}[t]\left(\frac{\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}+\right.\right.$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.5\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)-$$

$$2\,\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)\right.\right.$$

$$\left.\left.\left.r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)+$$

$$\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\left[\right.\right.\right.\right.$$

$$\left.\left.\left.\left.\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+\frac{1}{r}\left(\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\right.\right.$$

$$\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\left.\left.\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\right)\right)$$

$$-\frac{1}{r}\left(2\,\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\right.\right.\right.\right.$$

$$\left.\left.\left.r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-$$

$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2 r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.\left.\left.\left.\left.7\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)\right)\right)\right)\right)+$$

$$\frac{1}{r^2}\left(\mathrm{Sin}[t]\left(\mathrm{Cos}[t]\left(\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\right.\right.\right.\right.\right.$$

$$\left.\left.\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)+$$

$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)+\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)\right.\right.$$

$$\left.\left.\left.r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\Bigg)-$$

$$\frac{1}{r^2}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)+$$

$$\left.\left.\left.\frac{\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\,\pi}}\right)\right)\right)-$$

$$\mathrm{Sin}[t]\left(\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.\right.$$

$$\left.\left.7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+\right.\right.$$

$$\left.\left.\left.h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)-$$

$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)+\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)\right.\right.$$

$$\left.\left.\left.r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\Bigg)+$$

$$\frac{1}{r^2}\left(\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)+$$

$$\left.\left.\left.\frac{\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\,\pi}}\right)\right)\right)+$$

$$\mathrm{Sin}[t]\left(\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.\right.$$

$$\left.\left.7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+\right.\right.$$

$$\left.\left.\left.h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+\frac{1}{3\sqrt{193\pi}}$$

$$\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)-$$

$$\frac{1}{r}\Big(\mathrm{Sin}[t]\Big(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)$$

$$r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)\Big)+$$

$$\frac{1}{r}\Big(\mathrm{Cos}[t]\Big(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Cos}\Big[$$

$$\left(-\frac{1}{2}+h\right)t\Big]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)+$$

$$\frac{1}{r^2}\Big(\mathrm{Sin}[t]\Big(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$

$$\frac{\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)}{3\sqrt{193\pi}}\Big)\Big)-$$

$$\frac{1}{r^2}\Big(\mathrm{Cos}[t]\Big(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)-\frac{1}{r}\Big(\mathrm{Sin}[t]$$

$$\Big(\mathrm{Cos}[t]\Big(\frac{\sqrt{\alpha}\,\Big(3\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)}{3\sqrt{193\pi}}+$$

$$\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\mathrm{Sin}[t]\Big(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)$$

$$r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)\Bigg)-$$

$$\frac{1}{r}\Bigg(\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Bigg(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)+$$

$$\frac{\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\,\pi}}\Bigg)\Bigg)$$

$$+\frac{1}{r}\Bigg(\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\,\pi}}\Bigg(\sqrt{\alpha}\,\Bigg(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)$$

$$r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Bigg(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)\Bigg)\Bigg)\Bigg)+$$

$$\mathrm{Cos}[t]\Bigg(-\mathrm{Sin}[t]\Bigg(\frac{1}{3\sqrt{193\,\pi}}\Bigg(\sqrt{\alpha}\,\Bigg(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)+\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Bigg(3\left(\frac{1}{2}+h\right)\Bigg(\frac{3}{2}+$$

$$h\Bigg)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)+$$

$$\mathrm{Cos}[t]\Bigg(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Bigg(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)+\frac{1}{3\sqrt{193\,\pi}}$$

$$\Bigg(\sqrt{\alpha}\,\Bigg(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)\Bigg)-$$

$$\frac{1}{r}\Bigg(\mathrm{Cos}[t]\Bigg(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Bigg(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)+\frac{1}{3\sqrt{193\,\pi}}\Bigg(\sqrt{\alpha}\,\Bigg(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)$$

$$r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)\Bigg)-$$

$$\frac{1}{r}\Bigg(\mathrm{Sin}[t]\Bigg(\frac{1}{3\sqrt{193\,\pi}}\Bigg(\sqrt{\alpha}\,\Bigg(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\Bigg[$$

$$\left(-\frac{1}{2}+h\right)t\Bigg]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Bigg(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)\Bigg)+$$

$$\frac{1}{r^2}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\mathrm{Sin}[(-\frac{1}{2}+h)t]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\mathrm{Sin}[(\frac{3}{2}+h)t]\right)}{3\sqrt{193\pi}}\right)\right)+$$

$$\frac{1}{r^2}\left(\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-\frac{1}{r}\left(\mathrm{Cos}[t]\right.$$

$$\left(-\mathrm{Sin}[t]\left(\frac{\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}[(-\frac{1}{2}+h)t]-7\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}[(\frac{3}{2}+h)t]\right)}{3\sqrt{193\pi}}+\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)^2r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-$$

$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\mathrm{Sin}[(-\frac{1}{2}+h)t]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\mathrm{Sin}[(\frac{3}{2}+h)t]\right)}{3\sqrt{193\pi}}\right)\right)$$

$$-\frac{1}{r}\left(\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)+\frac{1}{r}\left(\mathrm{Cos}[t]\right.$$

$$\left(-\mathrm{Sin}[t]\left(\frac{\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}[(-\frac{1}{2}+h)t]-7\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}[(\frac{3}{2}+h)t]\right)}{3\sqrt{193\pi}}+\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$5\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Bigg)\Bigg) +$$

$$2\,\mathrm{Cos}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\,\Bigg(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right] -$$

$$5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Bigg) + \frac{1}{3\sqrt{193\pi}}\Bigg(\sqrt{\alpha}\,\Bigg(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)$$

$$r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right] - 7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Bigg)\Bigg)\Bigg) +$$

$$\mathrm{Sin}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Bigg(\sqrt{\alpha}\,\Bigg(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Cos}\Big[$$

$$\left(-\frac{1}{2}+h\right) t\Big] - 7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Bigg)\Bigg) +$$

$$\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\,\Bigg(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right] -$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Bigg)\Bigg) - \frac{1}{r}\Bigg(\mathrm{Cos}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}$$

$$\Bigg(3\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right] - 5\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Bigg) +$$

$$\frac{\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right] - 7\left(-\frac{3}{2}-h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\right)}{3\sqrt{193\pi}}\Bigg)\Bigg)$$

$$-\frac{1}{r}\Bigg(2\,\mathrm{Sin}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Bigg(\sqrt{\alpha}\,\Bigg(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)$$

$$r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right] - 7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Bigg)\Bigg) +$$

$$\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\,\Bigg(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right] -$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Bigg)\Bigg)\Bigg) +$$

$$\frac{1}{r}\Bigg(\mathrm{Cos}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\,\Bigg(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right] -$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Bigg) +$$

$$\frac{1}{3\sqrt{193\pi}}\Bigg(\sqrt{\alpha}\,\Bigg(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right] -$$

$$7\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Bigg)\Bigg)\Bigg)\Bigg)\Bigg)\Bigg) - \frac{1}{r}\Bigg(\mathrm{Sin}[t]$$

$$\Bigg(-\mathrm{Cos}[t]\Bigg(\frac{\sqrt{\alpha}\,\left(3\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right] - 7\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\right)}{3\sqrt{193\pi}} +$$

$$\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\,\Bigg(3\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right] -$$

$$5\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Bigg) -$$

$$2\,\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)\right.\right.$$

$$\left.\left.\left.r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)+$$

$$\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\right.\right.\right.\right.$$

$$\left.\left.\left.\left.\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)+\frac{1}{r}\left(\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\right.\right.$$

$$\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\left.\left.\frac{\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\,\pi}}\right)\right)$$

$$-\frac{1}{r}\left(2\,\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\right.\right.\right.\right.$$

$$\left.\left.r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-$$

$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.\left.\left.\left.\left.\left.7\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)\right)\right)\right)\right)+$$

$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\mathrm{Cos}[t]\left(\mathrm{Sin}[t]\left(\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\right.\right.\right.\right.\right.\right.$$

$$\left.\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.5\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\right.\right.\right.$$

$$\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$

$$\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\Bigg)\Bigg)-$$

$$\frac{1}{r^2}\left(2\,\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)\right.\right.$$

$$\left.\left.\left.r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\Bigg)+$$

$$\frac{1}{r^3}\left(2\,\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\left.\left.\left.\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\right)\right)\right)+$$

$$\mathrm{Cos}[t]\left(\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\right.\right.\right.\right.$$

$$\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.5\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)-$$

$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\right.\right.\right.$$

$$\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\Bigg)+$$

$$\frac{1}{r^2}\left(2\,\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)\right.\right.$$

$$\left.\left.\left.r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\Bigg)-$$

$$\frac{1}{r^3}\left(2\,\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\Bigg)\Bigg)\Bigg)+$$

$$\frac{1}{r}\Bigg(\mathrm{Cos}[t]\Bigg(\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Big)+\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)+$$

$$\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Big)\Bigg)-\frac{1}{r}\Bigg(\mathrm{Sin}[t]$$

$$\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)^2r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Big)\Bigg)\Bigg)+$$

$$\frac{1}{r}\Bigg(\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Big)+\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)+\frac{1}{r^2}\Bigg(\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\Bigg)\Bigg)$$

$$-\frac{1}{r^2}\Bigg(\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Big)+\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)\Bigg)\Bigg)\Bigg)-\frac{1}{r^2}\Bigg(\mathrm{Cos}[t]$$

$$\left(\mathrm{Cos}[t]\left(\frac{\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}+\right.\right.$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.5\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)\right.\right.$$

$$\left.\left.\left.r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-$$

$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\left.\left.\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\right)\right)$$

$$+\frac{1}{r}\left(\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\right.\right.\right.\right.$$

$$\left.\left.\left.r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)\right)-$$

$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(-\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Cos}\right.\right.\right.\right.\right.$$

$$\left.\left.\left.\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-$$

$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$
$$\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$
$$\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\Bigg)-$$
$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.\right.\right.$$
$$\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Big)+$$
$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$
$$\left.\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)+$$
$$\frac{1}{r^2}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$
$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$
$$\left.\left.\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\right)\right)$$
$$+\frac{1}{r^2}\left(\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\right.\right.\right.\right.$$
$$\left.r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Big)+$$
$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$
$$\left.\left.\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)+\frac{1}{r^2}\left(\mathrm{Sin}[t]\right.$$
$$\left(-\mathrm{Sin}[t]\left(\frac{\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}+\right.\right.$$
$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$
$$\left.\left.5\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$
$$\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$
$$\left.5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)\right.\right.$$
$$\left.\left.\left.r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-$$
$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$
$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-7\left(-\frac{3}{2}-h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\right)}{3\sqrt{193\pi}}\Bigg)\Bigg)$$

$$-\frac{1}{r}\Bigg(\mathrm{Sin}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)$$

$$r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Bigg)\Bigg)\Bigg)\Bigg)\Bigg)+$$

$$\mathrm{Sin}[t]\Bigg(\mathrm{Cos}[t]\Bigg(\mathrm{Sin}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{3}{2}+h}$$

$$\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-7\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-$$

$$5\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Bigg)+$$

$$\frac{1}{r}\Bigg(\mathrm{Cos}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}$$

$$\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Bigg)+$$

$$\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-$$

$$7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Big)\Bigg)\Bigg)-$$

$$\frac{1}{r^2}\Bigg(2\,\mathrm{Cos}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-$$

$$5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Bigg)+\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)$$

$$r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Big)\Bigg)\Bigg)+$$

$$\frac{1}{r^3}\Bigg(2\,\mathrm{Cos}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-$$

$$5\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Bigg)+$$

$$\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-7\left(-\frac{3}{2}-h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\right)}{3\sqrt{193\pi}}\Bigg)\Bigg)\Bigg)-$$

$$\mathrm{Sin}[t]\Bigg(\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{3}{2}+h}$$

$$\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-7\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-$$

$$5\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)-$$

$$\frac{1}{r}\Bigg(\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Bigg(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}$$

$$\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)+$$

$$\frac{1}{3\sqrt{193\pi}}\Bigg(\sqrt{\alpha}\Bigg(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)\Bigg)\Bigg)+$$

$$\frac{1}{r^2}\Bigg(2\,\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Bigg(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)+\frac{1}{3\sqrt{193\pi}}\Bigg(\sqrt{\alpha}\Bigg(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)$$

$$r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)\Bigg)\Bigg)-$$

$$\frac{1}{r^3}\Bigg(2\,\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Bigg(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)+$$

$$\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\Bigg)\Bigg)\Bigg)+$$

$$\mathrm{Sin}[t]\Bigg(\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Bigg(\sqrt{\alpha}\Bigg(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}$$

$$\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Bigg(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)+$$

$$\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Bigg(3\left(-\frac{1}{2}+h\right)^2\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)+\frac{1}{3\sqrt{193\pi}}$$

$$\Bigg(\sqrt{\alpha}\Bigg(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$7\left(-\frac{3}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)\Bigg)-$$

$$\frac{1}{r}\Bigg(\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Bigg(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\Big[$$

$$\left(-\frac{1}{2}+h\right)t\Big]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)+$$

$$\frac{1}{3\sqrt{193\pi}}\Bigg(\sqrt{\alpha}\Bigg(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)\Big)+$$

$$\frac{1}{r}\Bigg(\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\Big[$$

$$\left(-\frac{1}{2}+h\right)t\Big]-7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\Big[$$

$$\left(-\frac{1}{2}+h\right)t\Big]-5\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Bigg)+$$

$$\frac{1}{r^2}\Bigg(2\,\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)$$

$$r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Bigg)\Bigg)-$$

$$\frac{1}{r^2}\Bigg(2\,\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}$$

$$\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Bigg)\Bigg)-$$

$$\frac{1}{r^3}\Bigg(2\,\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$

$$\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\Bigg)\Bigg)+$$

$$\frac{1}{r^3}\Bigg(2\,\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Bigg)\Bigg)-$$

$$\frac{1}{r}\Bigg(\mathrm{Sin}[t]\Bigg(\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\Big[$$

$$\left(-\frac{1}{2}+h\right)t\Big]-7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)+$$

$$\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-\frac{1}{r}\left(\mathrm{Sin}[t]\right.$$

$$\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)^2\right.\right.$$

$$\left.r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.$$

$$\left.\left.\left.\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\Bigg)+$$

$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.\right.\right.$$

$$\left.\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)+\frac{1}{r^2}\left(\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\,\pi}}\right.\right.$$

$$\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\left.\left.\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\,\pi}}\right)\right)$$

$$-\frac{1}{r^2}\left(\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\right.\right.\right.\right.$$

$$\left.\left.r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)\right)+\frac{1}{r^2}\left(\mathrm{Sin}[t]\right.$$

$$\left(\mathrm{Cos}[t]\left(\frac{\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\,\pi}}+\right.\right.$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)+$$

$$\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)$$

$$r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)-$$

$$\frac{1}{r}\Bigg(\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$

$$\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\Bigg)\Bigg)$$

$$+\frac{1}{r}\Bigg(\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)$$

$$r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Bigg)\Bigg)\Bigg)+$$

$$\mathrm{Cos}[t]\Bigg(-\mathrm{Sin}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}$$

$$\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Bigg)+$$

$$\mathrm{Cos}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)^2\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+\frac{1}{3\sqrt{193\pi}}$$

$$\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$7\left(-\frac{3}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Bigg)-$$

$$\frac{1}{r}\Bigg(\mathrm{Cos}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\Big[$$

$$\left(-\frac{1}{2}+h\right)t\Big]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$

$$\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Bigg)\Bigg)-$$

$$\frac{1}{r}\Bigg(\mathrm{Sin}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\Big[$$

$$\left(-\frac{1}{2}+h\right) t\Big] - 7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right) t\Big]\Big)\Big) +$$

$$\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Sin}\Big[$$

$$\left(-\frac{1}{2}+h\right) t\Big] - 5\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right) t\Big]\Big)\Big)\Big) +$$

$$\frac{1}{r^2}\Big(2\,\mathrm{Cos}[t]\Big(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right) t\Big] -$$

$$5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right) t\Big]\Big) + \frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)$$

$$r^{\frac{1}{2}+h}\,\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right) t\Big] - 7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right) t\Big]\Big)\Big)\Big)\Big) +$$

$$\frac{1}{r^2}\Big(2\,\mathrm{Sin}[t]\Big(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}$$

$$\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right) t\Big] - 7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right) t\Big]\Big)\Big) +$$

$$\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right) t\Big] -$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right) t\Big]\Big)\Big)\Big) -$$

$$\frac{1}{r^3}\Big(2\,\mathrm{Cos}[t]\Big(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right) t\Big] -$$

$$5\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right) t\Big]\Big) +$$

$$\frac{\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right) t\Big] - 7\left(-\frac{3}{2}-h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right) t\Big]\Big)}{3\sqrt{193\pi}}\Big)\Big) -$$

$$\frac{1}{r^3}\Big(2\,\mathrm{Sin}[t]\Big(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right) t\Big] -$$

$$7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right) t\Big]\Big)\Big) +$$

$$\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right) t\Big] -$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right) t\Big]\Big)\Big)\Big) -$$

$$\frac{1}{r}\Big(\mathrm{Cos}[t]\Big(-\mathrm{Sin}[t]\Big(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Cos}\Big[$$

$$\left(-\frac{1}{2}+h\right) t\Big] - 7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right) t\Big]\Big)\Big) +$$

$$\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right) t\Big] -$$

$$5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right) t\Big]\Big)\Big) +$$

$$\mathrm{Cos}[t]\Big(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right) t\Big] -$$

$$5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$

$$\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)-\frac{1}{r}\Big(\mathrm{Cos}[t]$$

$$\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)^2\right.\right.$$

$$\left.r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.$$

$$\left.\left.\left.\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\Big)-$$

$$\frac{1}{r}\Big(\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.\right.$$

$$\left.\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)+\frac{1}{r^2}\Big(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\right.$$

$$\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\left.\left.\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\right)\right)$$

$$+\frac{1}{r^2}\Big(\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\right.\right.\right.$$

$$\left.\left.r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)\Big)+\frac{1}{r^2}\Big(\mathrm{Cos}[t]$$

$$\left(-\mathrm{Sin}[t]\left(\frac{\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}+\right.\right.$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.5\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)\right.\right.$$

$$\left.\left.\left.r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-$$

$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$
$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$
$$\left.\left.\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\right)\right)$$
$$-\frac{1}{r}\left(\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\right.\right.\right.\right.$$
$$\left.r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$
$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$
$$\left.\left.\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)\right)+$$
$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(-\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Cos}\right.\right.\right.\right.\right.$$
$$\left.\left.\left.\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$
$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$
$$\left.\left.5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$
$$2\,\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\right.\right.$$
$$\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2r^{-\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$
$$\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$
$$\left.\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)+$$
$$\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Cos}\right.\right.\right.$$
$$\left.\left.\left.\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2r^{-\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$
$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\right.$$
$$\left.\left.\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2r^{-\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)-$$
$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$
$$\left.5\left(\frac{3}{2}+h\right)^2r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$
$$\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)\Big)\Big) -$$

$$\frac{1}{r}\Big(2\,\mathrm{Sin}[t]\Big(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}$$

$$\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)+$$

$$\frac{1}{r}\Big(\mathrm{Cos}[t]\Big(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}$$

$$\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^3 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$

$$\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$7\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)\Big)+$$

$$\frac{1}{r^2}\Big(\mathrm{Cos}[t]\Big(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$

$$\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\Big)\Big)$$

$$+\frac{1}{r^2}\Big(2\,\mathrm{Sin}[t]\Big(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)$$

$$r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)-$$

$$\frac{1}{r^2}\Big(\mathrm{Cos}[t]\Big(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$

$$\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$7\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)\Big)\Big)\Big)-\frac{1}{r^2}\Big(\mathrm{Cos}[t]$$

$$\Big(-\mathrm{Sin}[t]\Big(\frac{\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}+$$

$$\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\Big(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Bigg)\Bigg) +$$

$$2\,\mathrm{Cos}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\,\Bigg(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right] -$$

$$5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Bigg) + \frac{1}{3\sqrt{193\pi}}\Bigg(\sqrt{\alpha}\,\Bigg(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)$$

$$r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right] - 7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Bigg)\Bigg)\Bigg) +$$

$$\mathrm{Sin}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Bigg(\sqrt{\alpha}\,\Bigg(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Cos}\Big[$$

$$\left(-\frac{1}{2}+h\right) t\Big] - 7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Bigg)\Bigg) +$$

$$\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\,\Bigg(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right] -$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Bigg)\Bigg) - \frac{1}{r}\Bigg(\mathrm{Cos}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}$$

$$\left(3\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right] - 5\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\right) +$$

$$\frac{\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right] - 7\left(-\frac{3}{2}-h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\right)}{3\sqrt{193\pi}}\Bigg)\Bigg)$$

$$-\frac{1}{r}\Bigg(2\,\mathrm{Sin}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Bigg(\sqrt{\alpha}\,\Bigg(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)$$

$$r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right] - 7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Bigg)\Bigg) +$$

$$\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\,\Bigg(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right] -$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Bigg)\Bigg)\Bigg) +$$

$$\frac{1}{r}\Bigg(\mathrm{Cos}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\,\Bigg(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right] -$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Bigg) +$$

$$\frac{1}{3\sqrt{193\pi}}\Bigg(\sqrt{\alpha}\,\Bigg(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right] -$$

$$7\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Bigg)\Bigg)\Bigg)\Bigg)\Bigg)\Bigg) -$$

$$\frac{1}{r}\Bigg(\mathrm{Sin}[t]\Bigg(-\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Bigg(\sqrt{\alpha}\,\Bigg(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Cos}\Big[$$

$$\left(-\frac{1}{2}+h\right) t\Big] - 7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Bigg)\Bigg) +$$

$$\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\,\Bigg(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right] -$$

$$5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Bigg)\Bigg) -$$

$$2\,\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\right.\right.$$
$$\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^{2}r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$
$$\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$
$$\left.\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)+$$
$$\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\right.\right.\right.\right.$$
$$\left.\left.\left.\left.\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^{2}r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$
$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\right.\right.$$
$$\left.\left.\left.\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^{2}r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$
$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$
$$\left.5\left(\frac{3}{2}+h\right)^{2}r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$
$$\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$
$$\left.\left.\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)-$$
$$\frac{1}{r}\left(2\,\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.\right.\right.$$
$$\left.\left.\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^{2}r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$
$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$
$$\left.\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^{2}r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-$$
$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^{2}\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.\right.$$
$$\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^{3}r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$
$$\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)^{2}\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$
$$\left.\left.\left.\left.7\left(-\frac{3}{2}-h\right)^{2}\left(\frac{3}{2}+h\right)^{2}r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)-$$
$$\frac{1}{r^{2}}\left(\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$
$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\Bigg)\Bigg)$$

$$+\frac{1}{r^2}\Bigg(2\,\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Bigg(\sqrt{\alpha}\Bigg(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)$$

$$r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)+$$

$$\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\Bigg(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)\Bigg)+$$

$$\frac{1}{r^2}\Bigg(\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\Bigg(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)+$$

$$\frac{1}{3\sqrt{193\pi}}\Bigg(\sqrt{\alpha}\Bigg(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$7\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)\Bigg)\Bigg)\Bigg)\Bigg)+\frac{1}{r^2}\Bigg(\mathrm{Sin}[t]$$

$$\Bigg(-\mathrm{Cos}[t]\Bigg(\frac{\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}+$$

$$\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\Bigg(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)-$$

$$2\,\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\Bigg(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)+\frac{1}{3\sqrt{193\pi}}\Bigg(\sqrt{\alpha}\Bigg(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)$$

$$r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)\Bigg)+$$

$$\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Bigg(\sqrt{\alpha}\Bigg(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\Big[$$

$$\left(-\frac{1}{2}+h\right)t\Big]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)+$$

$$\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\Bigg(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)+\frac{1}{r}\Bigg(\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}$$

$$\Bigg(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)+$$

$$\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\Bigg)\Bigg)$$

$$-\frac{1}{r}\Bigg(2\,\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Bigg(\sqrt{\alpha}\Bigg(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)$$

$$r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)-$$

$$\frac{1}{r}\Big(\mathrm{Sin}[t]\Big(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$

$$\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$7\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)\Big)\Big)\Big)-$$

$$\frac{1}{r}\Big(\mathrm{Sin}[t]\Big(\mathrm{Cos}[t]\Big(\mathrm{Sin}[t]\Big(\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}$$

$$\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+\frac{1}{r}\Big(\mathrm{Cos}[t]$$

$$\Big(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)^2$$

$$r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}$$

$$\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)\Big)-$$

$$\frac{1}{r^2}\Big(\mathrm{Cos}[t]\Big(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$

$$\frac{\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)}{3\sqrt{193\,\pi}}\Big)\Big)\Big)$$

$$-\mathrm{Sin}[t]\Big(\mathrm{Cos}[t]\Big(\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)$$

$$r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)-\frac{1}{r}\Big(\mathrm{Sin}[t]$$

$$\Big(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)^2$$

$$r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}$$

$$\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)\Big)+$$

$$\frac{1}{r^2}\Big(\mathrm{Sin}[t]\Big(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$

$$\frac{\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)}{3\sqrt{193\,\pi}}\Big)\Big)\Big)$$

$$+\mathrm{Sin}[t]\Big(\mathrm{Cos}[t]\Big(\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)$$

$$r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\mathrm{Sin}[t]\Big(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$

$$\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)-$$

$$\frac{1}{r}\Big(\mathrm{Sin}[t]\Big(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$

$$\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)\Big)+$$

$$\frac{1}{r}\Big(\mathrm{Cos}[t]\Big(\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}$$

$$\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)+$$

$$\frac{1}{r^2}\Big(\mathrm{Sin}[t]\Big(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h} \mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Big) +$$

$$\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right) r^{\frac{3}{2}+h} \mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-7\left(-\frac{3}{2}-h\right) r^{\frac{3}{2}+h} \mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\right)}{3\sqrt{193\pi}}\Bigg)\Bigg)$$

$$-\frac{1}{r^2}\Bigg(\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)$$

$$r^{\frac{3}{2}+h} \mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h} \mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h} \mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h} \mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Big)\Bigg)\Bigg)-\frac{1}{r}\Bigg(\mathrm{Sin}[t]\Bigg(\mathrm{Cos}[t]$$

$$\Bigg(\frac{\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h} \mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-7\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h} \mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\right)}{3\sqrt{193\pi}}+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h} \mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-$$

$$5\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h} \mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Bigg)+\mathrm{Sin}[t]$$

$$\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h} \mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-5\left(\frac{3}{2}+h\right)^2$$

$$r^{\frac{1}{2}+h} \mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Big)+\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}$$

$$\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h} \mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Big)\Bigg)-$$

$$\frac{1}{r}\Bigg(\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h} \mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-$$

$$5\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h} \mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Big)+$$

$$\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right) r^{\frac{3}{2}+h} \mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-7\left(-\frac{3}{2}-h\right) r^{\frac{3}{2}+h} \mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\right)}{3\sqrt{193\pi}}\Bigg)$$

$$\Bigg)+\frac{1}{r}\Bigg(\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}$$

$$\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h} \mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)$$

$$r^{\frac{3}{2}+h} \mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Big)+\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}$$

$$\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h} \mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Big)\Bigg)\Bigg)\Bigg)\Bigg)+$$

$$\mathrm{Cos}[t]\Bigg(-\mathrm{Sin}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h} \mathrm{Cos}\Big[$$

$$\left(-\frac{1}{2}+h\right) t\Big]-7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h} \mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h} \mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-$$

$$5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)+$$

$$\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)+$$

$$\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\Bigg)-$$

$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)+$$

$$\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\Bigg)-$$

$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.\right.\right.$$

$$\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\Bigg)+$$

$$\frac{1}{r^2}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)+$$

$$\left.\left.\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\,\pi}}\right)\right)$$

$$+\frac{1}{r^2}\left(\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\right.\right.\right.\right.$$

$$\left.r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\Bigg)-\frac{1}{r}\left(\mathrm{Cos}[t]\left(-\mathrm{Sin}[t]\right.\right.$$

$$\left(\frac{\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\,\pi}}+\right.$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$5\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Big) + \mathrm{Cos}[t]$$

$$\Big(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right] - 5\left(\frac{3}{2}+h\right)^2$$

$$r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Big) + \frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}$$

$$\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right] - 7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Big)\Big) -$$

$$\frac{1}{r}\Big(\mathrm{Cos}[t]\Big(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right] -$$

$$5\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Big) +$$

$$\frac{\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right] - 7\left(-\frac{3}{2}-h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\right)}{3\sqrt{193\pi}}\Big)$$

$$\Big) - \frac{1}{r}\Big(\mathrm{Sin}[t]\Big(\frac{1}{3\sqrt{193\pi}}$$

$$\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right] -$$

$$7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Big) +$$

$$\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right] - 5$$

$$\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Big)\Big)\Big) + \frac{1}{r}\Big(\mathrm{Cos}[t]\Big(-\mathrm{Sin}[t]$$

$$\Big(\frac{\sqrt{\alpha}\,\left(3\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right] - 7\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\right)}{3\sqrt{193\pi}} +$$

$$\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right] -$$

$$5\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Big) + 2\,\mathrm{Cos}[t]$$

$$\Big(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right] - 5\left(\frac{3}{2}+h\right)^2$$

$$r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Big) + \frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}$$

$$\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right] - 7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Big)\Big) +$$

$$\mathrm{Sin}[t]\Big(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Cos}\Big[$$

$$\left(-\frac{1}{2}+h\right) t\Big] - 7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Big) +$$

$$\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right] -$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Big) - \frac{1}{r}\Big(\mathrm{Cos}[t]\Big(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}$$

$$\left(3\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h} \mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right] - 5\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h} \mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\right) + \frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right) r^{\frac{3}{2}+h} \mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right] - 7\left(-\frac{3}{2}-h\right) r^{\frac{3}{2}+h} \mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\right)}{3\sqrt{193\pi}}\Bigg)$$

$$\Bigg) - \frac{1}{r}\Bigg(2\,\mathrm{Sin}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}$$

$$\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h} \mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right] - 7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h} \mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\right)\right) + \sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h} \mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right] - 5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h} \mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\right)\Bigg)\Bigg) +$$

$$\frac{1}{r}\Bigg(\mathrm{Cos}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2 r^{\frac{3}{2}+h} \mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right] - 5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{3}{2}+h} \mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\right) + \frac{1}{3\sqrt{193\pi}}$$

$$\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h} \mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right] - 7\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h} \mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\right)\right)\Bigg)\Bigg)\Bigg) - \frac{1}{r}\Bigg(\mathrm{Sin}[t]\Bigg(-\mathrm{Cos}[t]$$

$$\Bigg(\frac{\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h} \mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right] - 7\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h} \mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\right)}{3\sqrt{193\pi}} +$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h} \mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right] - 5\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h} \mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\right)\Bigg) - 2\,\mathrm{Sin}[t]$$

$$\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h} \mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right] - 5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h} \mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\right) + \frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h} \mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right] - 7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h} \mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\right)\right)\Bigg) +$$

$$\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Bigg(\sqrt{\alpha}\Bigg(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h} \mathrm{Cos}\Bigg[\left(-\frac{1}{2}+h\right) t\Bigg] - 7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h} \mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Bigg)\Bigg) +$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h} \mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right] - 5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h} \mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\right)\Bigg) +$$

$$\frac{1}{r}\Bigg(\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h} \mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right] - 5\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h} \mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\right) +$$

$$\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\Bigg)$$

$$\Bigg)-\frac{1}{r}\Bigg(2\,\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}$$

$$\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)\right.\right.$$

$$\left.r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)+\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\right.$$

$$\left.\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)\Bigg)-$$

$$\frac{1}{r}\Bigg(\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.\left.\left.\left.7\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)\right)\right)\right)\Bigg)+$$

$$\frac{1}{r}\Bigg(\mathrm{Cos}[t]\Bigg(-\mathrm{Sin}[t]\Bigg(\mathrm{Sin}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\right.\right.$$

$$\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)+$$

$$\frac{1}{r}\Bigg(\mathrm{Cos}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\Bigg)-$$

$$\frac{1}{r^2}\Bigg(\mathrm{Cos}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\Bigg)\Bigg)\Bigg)$$

$$-\mathrm{Cos}[t]\Bigg(\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)\right.\right.$$

$$\left.r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)-\frac{1}{r}\Bigg(\mathrm{Sin}[t]$$

$$\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)^{2}\right.\right.$$

$$\left.r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.$$

$$\left.\left.\left.\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\Bigg)+$$

$$\frac{1}{r^{2}}\Bigg(\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\left.\frac{\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\,\pi}}\right)\Bigg)\Bigg)$$

$$+2\,\mathrm{Cos}[t]\Bigg(\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)\right.\right.\right.$$

$$\left.\left.r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^{2}r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-$$

$$\frac{1}{r}\Bigg(\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)^{2}r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\Bigg)+$$

$$\frac{1}{r}\Bigg(\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.\right.$$

$$\left.\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^{2}r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\Bigg)+$$

$$\frac{1}{r^2}\left(\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\left.\left.\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\right)\right)$$

$$-\frac{1}{r^2}\left(\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\right.\right.\right.\right.$$

$$\left.r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Big)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\Bigg)-\frac{1}{r}\left(\mathrm{Cos}[t]\left(\mathrm{Cos}[t]\right.\right.$$

$$\left(\frac{\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}+\right.$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.5\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+\mathrm{Sin}[t]$$

$$\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)^2\right.\right.$$

$$\left.r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.$$

$$\left.\left.\left.\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-$$

$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\left.\left.\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\right)\right)+\frac{1}{r}\left(\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\pi}}\right.\right.$$

$$\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)\right.\right.$$

$$\left.r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Big)+\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\right.$$

$$\left.\left.\left.\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)\Bigg)-$$

$$
\begin{aligned}
&2\,\mathrm{Sin}[t]\Bigg(-\mathrm{Sin}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Cos}\Big[\\
&\qquad\left(-\frac{1}{2}+h\right)t\Big]-7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right)t\Big]\Big)\Big)+\\
&\quad\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right)t\Big]-\\
&\qquad 5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right)t\Big]\Big)\Bigg)+\\
&\quad\mathrm{Cos}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right)t\Big]-\\
&\qquad 5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right)t\Big]\Big)+\\
&\qquad\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right)t\Big]-\\
&\qquad\quad 7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right)t\Big]\Big)\Big)\Bigg)-\\
&\frac{1}{r}\Bigg(\mathrm{Cos}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right)t\Big]-\\
&\qquad 5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right)t\Big]\Big)+\\
&\qquad\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right)t\Big]-\\
&\qquad\quad 7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right)t\Big]\Big)\Big)\Bigg)-\\
&\frac{1}{r}\Bigg(\mathrm{Sin}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\\
&\qquad\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right)t\Big]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right)t\Big]\Big)\Big)+\\
&\quad\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right)t\Big]-\\
&\qquad 5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right)t\Big]\Big)\Bigg)\Bigg)+\\
&\frac{1}{r^2}\Bigg(\mathrm{Cos}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right)t\Big]-\\
&\qquad 5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right)t\Big]\Big)+\\
&\qquad\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\Bigg)\Bigg)\\
&\quad+\frac{1}{r^2}\Bigg(\mathrm{Sin}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\\
&\qquad r^{\frac{3}{2}+h}\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right)t\Big]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right)t\Big]\Big)\Big)+\\
&\quad\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right)t\Big]-
\end{aligned}
$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)\Big)+\frac{1}{r}\Big(\mathrm{Sin}[t]\Big(-\mathrm{Sin}[t]$$

$$\Big(\frac{\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}+$$

$$\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Big)+\mathrm{Cos}[t]$$

$$\Big(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)^2$$

$$r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}$$

$$\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)-$$

$$\frac{1}{r}\Big(\mathrm{Cos}[t]\Big(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$

$$\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\Big)$$

$$\Big)-\frac{1}{r}\Big(\mathrm{Sin}[t]\Big(\frac{1}{3\sqrt{193\pi}}$$

$$\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)$$

$$r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}$$

$$\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)\Big)\Big)+$$

$$\mathrm{Sin}[t]\Big(-\mathrm{Sin}[t]\Big(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\Big[$$

$$\left(-\frac{1}{2}+h\right)t\Big]-7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\Big(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$2\,\mathrm{Cos}[t]\Big(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}$$

$$\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$

$$\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)+$$

$$\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+\right.$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)-$$

$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\right.\right.$$

$$\left.\left.\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)-$$

$$\frac{1}{r}\left(2\,\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.\right.\right.$$

$$\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)+$$

$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.\right.$$

$$\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^3 r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.\left.7\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)+$$

$$\frac{1}{r^2}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\left.\left.\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\right)\right)$$

$$+\frac{1}{r^2}\left(2\,\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\right.\right.\right.\right.$$

$$\left.r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)-$$

$$\frac{1}{r^2}\Bigg(\mathrm{Cos}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+\frac{1}{3\sqrt{193\pi}}$$

$$\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)^2$$

$$\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)\Bigg)\Bigg)-\frac{1}{r}\Bigg(2\,\mathrm{Sin}[t]\Bigg(-\mathrm{Sin}[t]$$

$$\Bigg(\frac{\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Bigg)+2\,\mathrm{Cos}[t]$$

$$\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)^2$$

$$r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}$$

$$\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Bigg)+$$

$$\mathrm{Sin}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\Big[$$

$$\left(-\frac{1}{2}+h\right)t\Big]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Bigg)-\frac{1}{r}\Bigg(\mathrm{Cos}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}$$

$$\Big(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$

$$\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\Bigg)$$

$$\Bigg)-\frac{1}{r}\Bigg(2\,\mathrm{Sin}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}$$

$$\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)$$

$$r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}$$

$$\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Bigg)\Bigg)+$$

$$\frac{1}{r}\Bigg(\mathrm{Cos}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)+$$

$$\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.\left.\left.7\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)\right)+$$

$$\mathrm{Cos}[t]\left(-\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\right.\right.\right.\right.\right.$$

$$\left.\left.\left.\left.\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)-$$

$$2\,\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\right.\right.$$

$$\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)+$$

$$\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\right.\right.\right.\right.$$

$$\left.\left.\left.\left.\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\right.\right.$$

$$\left.\left.\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)+$$

$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)-$$

$$\frac{1}{r}\left(2\,\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.\right.\right.$$

$$\left.\left.\left.\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)\Bigg)-$$

$$\frac{1}{r}\Bigg(\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Bigg(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}$$

$$\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^3 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)+$$

$$\frac{1}{3\sqrt{193\pi}}\Bigg(\sqrt{\alpha}\Bigg(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$7\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)\Bigg)\Bigg)-$$

$$\frac{1}{r^2}\Bigg(\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Bigg(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)+$$

$$\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\Bigg)\Bigg)$$

$$+\frac{1}{r^2}\Bigg(2\,\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Bigg(\sqrt{\alpha}\Bigg(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)$$

$$r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Bigg(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)\Bigg)+$$

$$\frac{1}{r^2}\Bigg(\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Bigg(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)+\frac{1}{3\sqrt{193\pi}}$$

$$\Bigg(\sqrt{\alpha}\Bigg(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)^2$$

$$\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)\Bigg)\Bigg)\Bigg)-\frac{1}{r}\Bigg(2\,\mathrm{Cos}[t]\Bigg(-\mathrm{Cos}[t]$$

$$\Bigg(\frac{\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Bigg(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)-2\,\mathrm{Sin}[t]$$

$$\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Bigg(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)^2$$

$$r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)+\frac{1}{3\sqrt{193\pi}}\Bigg(\sqrt{\alpha}\Bigg(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}$$

$$\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)\Bigg)+$$

$$\mathrm{Cos}[t]\ \Bigg(\frac{1}{3\sqrt{193\,\pi}}\ \Big(\sqrt{\alpha}\ \Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Cos}\Big[$$

$$\left(-\frac{1}{2}+h\right)t\Big]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right)t\Big]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\,\pi}}\ \sqrt{\alpha}\ \Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right)t\Big]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right)t\Big]\Big)\Bigg)+\frac{1}{r}\ \Bigg(\mathrm{Sin}[t]\ \Bigg(\sqrt{\frac{7}{579\,\pi}}\ \sqrt{\alpha}$$

$$\Big(3\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right)t\Big]-5\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right)t\Big]\Big)+$$

$$\frac{\sqrt{\alpha}\ \left(3\left(\frac{1}{2}-h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\,\pi}}\Bigg)$$

$$\Bigg)-\frac{1}{r}\ \Bigg(2\,\mathrm{Cos}[t]\ \Bigg(\frac{1}{3\sqrt{193\,\pi}}$$

$$\Big(\sqrt{\alpha}\ \Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right)t\Big]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)$$

$$r^{\frac{3}{2}+h}\,\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right)t\Big]\Big)\Big)+\sqrt{\frac{7}{579\,\pi}}\ \sqrt{\alpha}\ \Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}$$

$$\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right)t\Big]-5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right)t\Big]\Big)\Bigg)\Bigg)-$$

$$\frac{1}{r}\ \Bigg(\mathrm{Sin}[t]\ \Bigg(\sqrt{\frac{7}{579\,\pi}}\ \sqrt{\alpha}\ \Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right)t\Big]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right)t\Big]\Big)+\frac{1}{3\sqrt{193\,\pi}}$$

$$\Big(\sqrt{\alpha}\ \Big(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right)t\Big]-7\left(-\frac{3}{2}-h\right)^2$$

$$\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right)t\Big]\Big)\Big)\Bigg)\Bigg)\Bigg)\Bigg)+\frac{1}{r}\ \Bigg(\mathrm{Cos}[t]\ \Bigg(-\mathrm{Cos}[t]$$

$$\left(\frac{\sqrt{\alpha}\ \left(3\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\,\pi}}+\right.$$

$$\sqrt{\frac{7}{579\,\pi}}\ \sqrt{\alpha}\ \Big(3\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right)t\Big]-$$

$$\left.5\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right)t\Big]\Big)\right)-3\,\mathrm{Sin}[t]$$

$$\Bigg(\sqrt{\frac{7}{579\,\pi}}\ \sqrt{\alpha}\ \Big(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right)t\Big]-5\left(\frac{3}{2}+h\right)^2$$

$$r^{\frac{1}{2}+h}\,\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right)t\Big]\Big)+\frac{1}{3\sqrt{193\,\pi}}\ \Big(\sqrt{\alpha}\ \Big(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}$$

$$\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right)t\Big]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right)t\Big]\Big)\Big)\Bigg)+$$

$$3\,\mathrm{Cos}[t]\ \Bigg(\frac{1}{3\sqrt{193\,\pi}}\ \Big(\sqrt{\alpha}\ \Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}$$

$$\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right)t\Big]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right)t\Big]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)+\mathrm{Sin}[t]$$

$$\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^3 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}$$

$$\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.7\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)+$$

$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\left.\left.\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\right)\right)-\frac{1}{r}\left(3\,\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\pi}}\right.\right.$$

$$\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)\right.\right.$$

$$\left.\left.r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\right.$$

$$\left.\left.\left.\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-$$

$$\frac{1}{r}\left(3\,\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\right.\right.\right.\right.$$

$$\left.\left.\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.\left.7\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)+$$

$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\right.\right.\right.\right.\right.$$

$$\left.\left.\left.\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.\left.\left.\left.5\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)\right)-\frac{1}{r}\left(\mathrm{Sin}[t]\left(\mathrm{Sin}[\right.\right.$$

$$t]\left(\frac{\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}+\right.$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)-$$

$$3\,\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-$$

$$3\,\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.\right.$$

$$\left.\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+\mathrm{Cos}[t]$$

$$\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^3 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}$$

$$\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.7\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)+$$

$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\left.\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\right)$$

$$\Bigg)+\frac{1}{r}\left(3\,\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\right.\right.$$

$$\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)\right.\right.$$

$$\left.\left.r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\right.$$

$$\left.\left.\left.\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-$$

$$\frac{1}{r}\left(3\,\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\right.\right.\right.$$

$$\left(-\frac{1}{2}+h\right) t\Big] - 5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right) t\Big]\Big) +$$

$$\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right) t\Big] -$$

$$7\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right) t\Big]\Big)\Big)\Big)\Big) -$$

$$\frac{1}{r}\Big(\mathrm{Sin}[t]\Big(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\Big[$$

$$\left(-\frac{1}{2}+h\right) t\Big] - 7\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right) t\Big]\Big)\Big) +$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right) t\Big] -$$

$$5\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right) t\Big]\Big)\Big)\Big)\Big)\Big)\Big)\Big)\Big) -$$

$$\frac{1}{r}\Big(\mathrm{Sin}[t]\Big(-\mathrm{Sin}[t]\Big(\mathrm{Sin}[t]\Big(\mathrm{Sin}[t]\Big(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{3}{2}+h}$$

$$\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right) t\Big] - 7\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{3}{2}+h}\,\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right) t\Big]\Big)\Big) +$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{3}{2}+h}\,\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right) t\Big] -$$

$$5\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{3}{2}+h}\,\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right) t\Big]\Big)\Big) +$$

$$\frac{1}{r}\Big(\mathrm{Cos}[t]\Big(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}$$

$$\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right) t\Big] - 5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right) t\Big]\Big) +$$

$$\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right) t\Big] -$$

$$7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right) t\Big]\Big)\Big)\Big) -$$

$$\frac{1}{r^2}\Big(2\,\mathrm{Cos}[t]\Big(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right) t\Big] -$$

$$5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right) t\Big]\Big) + \frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)$$

$$r^{\frac{1}{2}+h}\,\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right) t\Big] - 7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right) t\Big]\Big)\Big)\Big) +$$

$$\frac{1}{r^3}\Big(2\,\mathrm{Cos}[t]\Big(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right) t\Big] -$$

$$5\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right) t\Big]\Big) +$$

$$\frac{\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right) t\Big] - 7\left(-\frac{3}{2}-h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right) t\Big]\right)}{3\sqrt{193\pi}}\Big)\Big)\Big) +$$

$$\mathrm{Cos}[t]\Big(\mathrm{Cos}[t]\Big(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{3}{2}+h}$$

$$\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)-$$

$$\frac{1}{r}\Big(\mathrm{Sin}[t]\Big(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}$$

$$\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$

$$\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)\Big)+$$

$$\frac{1}{r^2}\Big(2\,\mathrm{Sin}[t]\Big(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)$$

$$r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)\Big)-$$

$$\frac{1}{r^3}\Big(2\,\mathrm{Sin}[t]\Big(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$

$$\frac{\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)}{3\sqrt{193\,\pi}}\Big)\Big)\Big)+$$

$$\frac{1}{r}\Big(\mathrm{Cos}[t]\Big(\mathrm{Cos}[t]\Big(\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\mathrm{Sin}[t]\Big(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$

$$\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)-\frac{1}{r}\Big(\mathrm{Sin}[t]$$

$$\Big(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)^2$$

$$r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}$$

$$\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)\Big)+$$

$$\frac{1}{r}\Big(\mathrm{Cos}[t]\Big(\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}$$

$$\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)+\frac{1}{r^2}\Big(\mathrm{Sin}[t]\Big(\sqrt{\frac{7}{579\,\pi}}$$

$$\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$

$$\frac{\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\,\pi}}\Big)\Big)$$

$$-\frac{1}{r^2}\Big(\mathrm{Cos}[t]\Big(\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)$$

$$r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)\Big)\Big)-\frac{1}{r^2}\Big(\mathrm{Cos}[t]$$

$$\Big(\mathrm{Cos}[t]\Big(\frac{\sqrt{\alpha}\,\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\,\pi}}+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\mathrm{Sin}[t]\Big(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)$$

$$r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)-$$

$$\frac{1}{r}\Big(\mathrm{Sin}[t]\Big(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$

$$\frac{\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\,\pi}}\Big)\Big)$$

$$+\frac{1}{r}\Big(\mathrm{Cos}[t]\Big(\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)$$

$$r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)\Big)\Big)-$$

$$\frac{1}{r}\Big(\mathrm{Sin}[t]\Big(-\mathrm{Sin}[t]\Big(\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\Big[$$

$$\left(-\frac{1}{2}+h\right)t\Big]-7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\mathrm{Cos}[t]\Big(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$

$$\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)-$$

$$\frac{1}{r}\Big(\mathrm{Cos}[t]\Big(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$

$$\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)\Big)-$$

$$\frac{1}{r}\Big(\mathrm{Sin}[t]\Big(\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}$$

$$\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)+$$

$$\frac{1}{r^2}\Big(\mathrm{Cos}[t]\Big(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$

$$\frac{\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)}{3\sqrt{193\,\pi}}\Big)\Big)$$

$$+\frac{1}{r^2}\left(\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\right.\right.\right.\right.$$

$$\left.r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.\left.\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)\right)+\frac{1}{r^2}\left(\mathrm{Sin}[t]\right.$$

$$\left(-\mathrm{Sin}[t]\left(\frac{\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}+\right.\right.$$

$$\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.5\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)\right.\right.$$

$$\left.\left.\left.r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-$$

$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\left.\left.\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\right)\right)$$

$$-\frac{1}{r}\left(\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\right.\right.\right.\right.$$

$$\left.r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.\left.\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)\right)\right)+$$

$$\mathrm{Cos}[t]\left(\mathrm{Cos}[t]\left(\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\right.\right.\right.\right.\right.$$

$$\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.5\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\right.\right.\right.$$

$$\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$

$$\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\Bigg)-$$

$$\frac{1}{r^2}\left(2\,\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)\right.\right.$$

$$\left.\left.\left.\left.r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)+$$

$$\frac{1}{r^3}\left(2\,\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\left.\left.\left.\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\right)\right)\right)-$$

$$\mathrm{Sin}[t]\left(\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\right.\right.\right.\right.$$

$$\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.5\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)-$$

$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\right.\right.\right.$$

$$\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)+$$

$$\frac{1}{r^2}\left(2\,\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)\right.\right.$$

$$\left.\left.\left.\left.r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)-$$

$$\frac{1}{r^3}\left(2\,\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-7\left(-\frac{3}{2}-h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\right)}{3\sqrt{193\pi}}\Bigg)\Bigg)\Bigg)+$$

$$\mathrm{Sin}[t]\Bigg(\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{3}{2}+h}$$

$$\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-7\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-$$

$$5\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Bigg)+$$

$$\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)^2\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-$$

$$5\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Big)+\frac{1}{3\sqrt{193\pi}}$$

$$\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-$$

$$7\left(-\frac{3}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Big)\Bigg)-$$

$$\frac{1}{r}\Bigg(\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Cos}\Big[$$

$$\left(-\frac{1}{2}+h\right) t\Big]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Big)+$$

$$\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-$$

$$7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Big)\Bigg)\Bigg)+$$

$$\frac{1}{r}\Bigg(\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Cos}\Big[$$

$$\left(-\frac{1}{2}+h\right) t\Big]-7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\,\mathrm{Sin}\Big[$$

$$\left(-\frac{1}{2}+h\right) t\Big]-5\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Bigg)\Bigg)+$$

$$\frac{1}{r^2}\Bigg(2\,\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-$$

$$5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Big)+\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)$$

$$r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Big)\Bigg)\Bigg)-$$

$$\frac{1}{r^2}\Bigg(2\,\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}$$

$$\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\Bigg)\Bigg)-$$

$$\frac{1}{r^3}\left(2\,\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\left.\left.\frac{\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\,\pi}}\right)\right)+$$

$$\frac{1}{r^3}\left(2\,\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.\right.$$

$$\left.7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)-$$

$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\right.\right.\right.\right.\right.\right.$$

$$\left.\left.\left.\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-\frac{1}{r}\left(\mathrm{Sin}[t]\right.$$

$$\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)^2\right.\right.$$

$$\left.r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.$$

$$\left.\left.\left.\left.\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)+$$

$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.\right.\right.$$

$$\left.\left.\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)\Bigg)+\frac{1}{r^2}\Bigg(\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\pi}}$$

$$\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\Bigg)\Bigg)$$

$$-\frac{1}{r^2}\Bigg(\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\right.\right.$$

$$\left.r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)\Bigg)\Bigg)\Bigg)+\frac{1}{r^2}\Bigg(\mathrm{Sin}[t]$$

$$\Bigg(\mathrm{Cos}[t]\Bigg(\frac{\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)+$$

$$\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)\right.\right.$$

$$\left.\left.r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\Bigg)-$$

$$\frac{1}{r}\Bigg(\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\Bigg)\Bigg)$$

$$+\frac{1}{r}\Bigg(\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\right.\right.$$

$$\left.r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)\Bigg)\Bigg)\Bigg)+$$

$$\mathrm{Cos}[t]\Bigg(-\mathrm{Sin}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\right.\right.$$

$$\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\mathrm{Cos}[t]\,\Big(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)^2\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+\frac{1}{3\sqrt{193\,\pi}}$$

$$\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$7\left(-\frac{3}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)-$$

$$\frac{1}{r}\Big(\mathrm{Cos}[t]\,\Big(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\Big[$$

$$\left(-\frac{1}{2}+h\right)t\Big]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$

$$\frac{1}{3\sqrt{193\,\pi}}\,\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)\Big)-$$

$$\frac{1}{r}\Big(\mathrm{Sin}[t]\,\Big(\frac{1}{3\sqrt{193\,\pi}}\,\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\Big[$$

$$\left(-\frac{1}{2}+h\right)t\Big]-7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\Big[$$

$$\left(-\frac{1}{2}+h\right)t\Big]-5\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)+$$

$$\frac{1}{r^2}\Big(2\,\mathrm{Cos}[t]\,\Big(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+\frac{1}{3\sqrt{193\,\pi}}\,\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)$$

$$r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)\Big)+$$

$$\frac{1}{r^2}\Big(2\,\mathrm{Sin}[t]\,\Big(\frac{1}{3\sqrt{193\,\pi}}\,\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}$$

$$\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)-$$

$$\frac{1}{r^3}\left(2\,\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$
$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$
$$\left.\left.\frac{\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\,\pi}}\right)\right)-$$
$$\frac{1}{r^3}\left(2\,\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.\right.$$
$$\left.7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$
$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$
$$\left.\left.\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)-$$
$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(-\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\right.\right.\right.\right.\right.$$
$$\left.\left.\left.\left.\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$
$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$
$$\left.\left.5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$
$$\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$
$$\left.5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$
$$\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$
$$\left.\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-\frac{1}{r}\left(\mathrm{Cos}[t]\right.$$
$$\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)^2\right.\right.$$
$$\left.r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.$$
$$\left.\left.\left.\left.\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)-$$
$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.\right.\right.$$
$$\left.\left.\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$
$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$
$$\left.\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)+\frac{1}{r^2}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\,\pi}}\right.\right.$$

$$\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\Bigg)\Bigg)$$

$$+\frac{1}{r^2}\Bigg(\mathrm{Sin}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Bigg(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\right.$$

$$\left.r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)\Bigg)\Bigg)\Bigg)+\frac{1}{r^2}\Bigg(\mathrm{Cos}[t]$$

$$\Bigg(-\mathrm{Sin}[t]\Bigg(\frac{\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)+$$

$$\mathrm{Cos}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(\frac{3}{2}+h\right)^2r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\Bigg(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)\right.$$

$$\left.r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)\Bigg)-$$

$$\frac{1}{r}\Bigg(\mathrm{Cos}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\Bigg)\Bigg)$$

$$-\frac{1}{r}\Bigg(\mathrm{Sin}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Bigg(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\right.$$

$$\left.r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)\Bigg)\Bigg)\Bigg)+$$

$$\frac{1}{r}\Bigg(\mathrm{Cos}[t]\Bigg(-\mathrm{Sin}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Bigg(\sqrt{\alpha}\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\Big[\right.$$

$$\left.\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)+$$

$$2\,\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\right.\right.$$

$$\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)+$$

$$\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\right.\right.\right.\right.$$

$$\left.\left.\left.\left.\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\right.\right.$$

$$\left.\left.\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)-$$

$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)-$$

$$\frac{1}{r}\left(2\,\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.\right.\right.$$

$$\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)+$$

$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.\right.$$

$$\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^3 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.\left.7\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)+$$

$$\frac{1}{r^2}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$5\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Big) +$$

$$\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-7\left(-\frac{3}{2}-h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\right)}{3\sqrt{193\pi}}\Bigg)\Bigg)$$

$$+\frac{1}{r^2}\Bigg(2\,\mathrm{Sin}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)$$

$$r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Bigg)\Bigg)-$$

$$\frac{1}{r^2}\Bigg(\mathrm{Cos}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Big)+$$

$$\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-$$

$$7\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Big)\Bigg)\Bigg)\Bigg)\Bigg)-\frac{1}{r^2}\Bigg(\mathrm{Cos}[t]$$

$$\Bigg(-\mathrm{Sin}[t]\Bigg(\frac{\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-7\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\right)}{3\sqrt{193\pi}}+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-$$

$$5\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Bigg)+$$

$$2\,\mathrm{Cos}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-$$

$$5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Big)+\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)$$

$$r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Big)\Bigg)+$$

$$\mathrm{Sin}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Cos}\Big[$$

$$\left(-\frac{1}{2}+h\right) t\Big]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Big)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\Big)\Bigg)-\frac{1}{r}\Bigg(\mathrm{Cos}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}$$

$$\Big(3\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-5\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\Big)+$$

$$\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-7\left(-\frac{3}{2}-h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\right)}{3\sqrt{193\pi}}\Bigg)\Bigg)$$

$$-\frac{1}{r}\left(2\,\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\right.\right.\right.\right.$$

$$\left.r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)+$$

$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.\left.\left.7\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)\right)\right)-$$

$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(-\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\right.\right.\right.\right.\right.$$

$$\left.\left.\left.\left.\left.\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+\right.$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)-$$

$$2\,\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\right.\right.$$

$$\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)+$$

$$\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\right.\right.\right.\right.$$

$$\left.\left.\left.\left.\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+\right.$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\right.\right.$$

$$\left.\left.\left.\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-$$

$$\frac{1}{r}\left(2\,\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.\right.\right.$$

$$\left.\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^{2}r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^{2}r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-$$

$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^{2}\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.\right.$$

$$\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^{3}r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)^{2}\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.\left.7\left(-\frac{3}{2}-h\right)^{2}\left(\frac{3}{2}+h\right)^{2}r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)-$$

$$\frac{1}{r^{2}}\left(\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\left.\left.\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\right)\right)$$

$$+\frac{1}{r^{2}}\left(2\,\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\right.\right.\right.\right.$$

$$\left.\left.r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)+$$

$$\frac{1}{r^{2}}\left(\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^{2}r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^{2}r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)^{2}\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.\left.\left.7\left(-\frac{3}{2}-h\right)^{2}\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)\right)\right)+\frac{1}{r^{2}}\left(\mathrm{Sin}[t]\right.$$

$$\left(-\mathrm{Cos}[t]\left(\frac{\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}+\right.\right.$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)-$$

$$2\,\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)+\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)\right.\right.$$

$$\left.\left.\left.r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)+$$

$$\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\right.\right.\right.\right.$$

$$\left.\left.\left.\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)+\frac{1}{r}\left(\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\right.\right.$$

$$\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\left.\left.\frac{\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\,\pi}}\right)\right)$$

$$-\frac{1}{r}\left(2\,\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\right.\right.\right.\right.$$

$$\left.\left.r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-$$

$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.\left.\left.\left.7\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)\right)\right)\right)-$$

$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\mathrm{Cos}[t]\left(\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\right.\right.\right.\right.\right.$$

$$\left.\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)+\frac{1}{r}\Bigg(\mathrm{Cos}[t]$$

$$\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Bigg(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)^2$$

$$r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)+\frac{1}{3\sqrt{193\pi}}\Bigg(\sqrt{\alpha}\Bigg(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}$$

$$\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)\Bigg)\Bigg)-$$

$$\frac{1}{r^2}\Bigg(\mathrm{Cos}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Bigg(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)+$$

$$\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\Bigg)\Bigg)\Bigg)$$

$$-\mathrm{Sin}[t]\Bigg(\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Bigg(\sqrt{\alpha}\Bigg(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)$$

$$r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Bigg(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)-\frac{1}{r}\Bigg(\mathrm{Sin}[t]$$

$$\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Bigg(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)^2$$

$$r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)+\frac{1}{3\sqrt{193\pi}}\Bigg(\sqrt{\alpha}\Bigg(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}$$

$$\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)\Bigg)\Bigg)+$$

$$\frac{1}{r^2}\Bigg(\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Bigg(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)+$$

$$\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\Bigg)\Bigg)\Bigg)$$

$$+\mathrm{Sin}[t]\Bigg(\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Bigg(\sqrt{\alpha}\Bigg(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)$$

$$r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Bigg(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)+$$

$$\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Bigg(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$
$$\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$
$$7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)-$$
$$\frac{1}{r}\Big(\mathrm{Sin}[t]\Big(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$
$$5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$
$$\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$
$$7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)\Big)+$$
$$\frac{1}{r}\Big(\mathrm{Cos}[t]\Big(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}$$
$$\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$
$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$
$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)+$$
$$\frac{1}{r^2}\Big(\mathrm{Sin}[t]\Big(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$
$$5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$
$$\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\Big)\Big)$$
$$-\frac{1}{r^2}\Big(\mathrm{Cos}[t]\Big(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)$$
$$r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$
$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$
$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)\Big)-\frac{1}{r}\Big(\mathrm{Sin}[t]\Big(\mathrm{Cos}[t]$$
$$\Big(\frac{\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}+$$
$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$
$$5\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+\mathrm{Sin}[t]$$
$$\Big(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)^2$$

$$r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}$$

$$\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)-$$

$$\frac{1}{r}\Bigg(\mathrm{Sin}[t]\Bigg(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$

$$\frac{\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\,\pi}}\Bigg)$$

$$\Bigg)+\frac{1}{r}\Bigg(\mathrm{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\,\pi}}$$

$$\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)$$

$$r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}$$

$$\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Bigg)\Bigg)\Bigg)\Bigg)+$$

$$\mathrm{Cos}[t]\Bigg(-\mathrm{Sin}[t]\Bigg(\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\Big[$$

$$\left(-\frac{1}{2}+h\right)t\Big]-7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Bigg)+$$

$$\mathrm{Cos}[t]\Bigg(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$

$$\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Bigg)-$$

$$\frac{1}{r}\Bigg(\mathrm{Cos}[t]\Bigg(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$

$$\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Bigg)\Bigg)-$$

$$\frac{1}{r}\Bigg(\mathrm{Sin}[t]\Bigg(\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}$$

$$\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)+$$

$$\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\,\Bigg(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)\Bigg)+$$

$$\frac{1}{r^2}\Bigg(\mathrm{Cos}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\,\Bigg(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)+$$

$$\frac{\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\Bigg)\Bigg)$$

$$+\frac{1}{r^2}\Bigg(\mathrm{Sin}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Bigg(\sqrt{\alpha}\,\Bigg(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)$$

$$r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)+$$

$$\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\,\Bigg(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)\Bigg)\Bigg)-\frac{1}{r}\Bigg(\mathrm{Cos}[t]\Bigg(-\mathrm{Sin}[t]$$

$$\Bigg(\frac{\sqrt{\alpha}\,\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}+$$

$$\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\,\Bigg(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)+\mathrm{Cos}[t]$$

$$\Bigg(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\,\Bigg(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)^2$$

$$r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)+\frac{1}{3\sqrt{193\pi}}\Bigg(\sqrt{\alpha}\,\Bigg(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}$$

$$\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)\Bigg)-$$

$$\frac{1}{r}\Bigg(\mathrm{Cos}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\,\Bigg(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)+$$

$$\frac{\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\Bigg)$$

$$\Bigg)-\frac{1}{r}\Bigg(\mathrm{Sin}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}$$

$$\Bigg(\sqrt{\alpha}\,\Bigg(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)\Bigg)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-5\right.$$

$$\left.\left.\left.\left.\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)+\frac{1}{r}\left(\mathrm{Cos}[t]\left(-\mathrm{Sin}[t]\right.\right.$$

$$\left(\frac{\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}+\right.$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.5\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+2\,\mathrm{Cos}[t]$$

$$\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)^2\right.\right.$$

$$\left.r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.$$

$$\left.\left.\left.\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)+$$

$$\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\right.\right.\right.$$

$$\left.\left.\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)-\frac{1}{r}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\right.\right.$$

$$\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\left.\left.\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\right)\right)-\frac{1}{r}\left(2\,\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\right.\right.$$

$$\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)\right.\right.$$

$$\left.\left.r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\right.$$

$$\left.\left.\left.\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)+$$

$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}$$

$$\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)^2\right.\right.$$

$$\left.\left.\left.\left.\left.\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)\right)\right)-\frac{1}{r}\left(\mathrm{Sin}[t]\left(-\mathrm{Cos}[t]\right.\right.$$

$$\left(\frac{\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-7\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\right)}{3\sqrt{193\,\pi}}+\right.$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-\right.$$

$$\left.\left.5\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\right)\right)-2\,\mathrm{Sin}[t]$$

$$\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-5\left(\frac{3}{2}+h\right)^2\right.\right.$$

$$\left.r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\right)+\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\right.\right.$$

$$\left.\left.\left.\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\right)\right)\right)+$$

$$\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\right.\right.\right.\right.$$

$$\left.\left.\left.\left.\left(-\frac{1}{2}+h\right) t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\right)\right)+\right.$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-\right.$$

$$\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\right)\right)+$$

$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-\right.\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\right)+$$

$$\left.\left.\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-7\left(-\frac{3}{2}-h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\right)}{3\sqrt{193\,\pi}}\right)\right)-\frac{1}{r}\left(2\,\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\,\pi}}\right.\right.$$

$$\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)\right.\right.$$

$$\left.\left.r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\right)\right)+\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\right.$$

$$\left.\left.\left.\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\right)\right)\right)-$$

$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right) t\right]-\right.\right.\right.$$

$$\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right) t\right]\right)+$$

$$\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right) t\right]-\right.\right.$$

$$\left.\left.\left.\left.\left.\left.\left.7\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right) r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right) t\right]\right)\right)\right)\right)\right)\right)\right)\right)-$$

$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(-\mathrm{Sin}[t]\left(\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right) r^{-\frac{1}{2}+h}\right.\right.\right.\right.\right.$$

$$\text{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\text{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\text{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\text{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\frac{1}{r}\Big(\text{Cos}[t]\Big(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\text{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\text{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$

$$\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\text{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\text{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)\Big)-$$

$$\frac{1}{r^2}\Big(\text{Cos}[t]\Big(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\text{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\text{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$

$$\frac{\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\text{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\text{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\,\pi}}\Big)\Big)\Big)$$

$$-\text{Cos}[t]\Big(\text{Cos}[t]\Big(\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)$$

$$r^{-\frac{1}{2}+h}\,\text{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\text{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\text{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\text{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)-\frac{1}{r}\Big(\text{Sin}[t]$$

$$\Big(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\text{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)^2$$

$$r^{\frac{1}{2}+h}\,\text{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}$$

$$\text{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\text{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)\Big)+$$

$$\frac{1}{r^2}\Big(\text{Sin}[t]\Big(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\Big(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\text{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\text{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$

$$\frac{\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\text{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\text{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\,\pi}}\Big)\Big)\Big)$$

$$+2\,\text{Cos}[t]\Big(\text{Cos}[t]\Big(\frac{1}{3\sqrt{193\,\pi}}\Big(\sqrt{\alpha}\,\Big(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)$$

$$r^{-\frac{1}{2}+h}\,\text{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\text{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)+$$

$$\mathrm{Sin}[t]\,\Bigg(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\Bigg)-$$

$$\frac{1}{r}\Bigg(\mathrm{Sin}[t]\,\Bigg(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\Bigg)\Bigg)+$$

$$\frac{1}{r}\Bigg(\mathrm{Cos}[t]\,\Bigg(\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.$$

$$\left.\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)\Bigg)+$$

$$\frac{1}{r^2}\Bigg(\mathrm{Sin}[t]\,\Bigg(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\,\pi}}\Bigg)\Bigg)$$

$$-\frac{1}{r^2}\Bigg(\mathrm{Cos}[t]\,\Bigg(\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\right.\right.$$

$$\left.\left.r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\,\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)\Bigg)\Bigg)-\frac{1}{r}\Bigg(\mathrm{Cos}[t]\,\Bigg(\mathrm{Cos}[t]$$

$$\Bigg(\frac{\sqrt{\alpha}\,\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\,\pi}}+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)+\mathrm{Sin}[t]$$

$$\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)^2\right.\right.$$

$$\left.r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.$$

$$\left.\left.\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\Bigg)-$$

$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\left.\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\right)$$

$$\Bigg)+\frac{1}{r}\left(\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\pi}}\right.\right.$$

$$\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)\right.\right.$$

$$\left.\left.r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\right.$$

$$\left.\left.\left.\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)\Bigg)-$$

$$2\,\mathrm{Sin}[t]\left(-\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\right.\right.\right.\right.$$

$$\left.\left.\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\Bigg)-$$

$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)^2r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-$$

$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.\right.\right.$$

$$\left.\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)+$$

$$\frac{1}{r^2}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\left.\left.\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\right)\right)$$

$$+\frac{1}{r^2}\left(\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\right.\right.\right.\right.$$

$$\left.\left.r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)+\frac{1}{r}\left(\mathrm{Sin}[t]\left(-\mathrm{Sin}[t]\right.\right.$$

$$\left(\frac{\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}+\right.$$

$$\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.5\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+\mathrm{Cos}[t]$$

$$\left(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)^2\right.\right.$$

$$\left.r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.$$

$$\left.\left.\left.\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-$$

$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\,\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\left.\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\right)$$

$$\Bigg) - \frac{1}{r}\Bigg(\mathrm{Sin}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}$$

$$\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right)t\Big] - 7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)$$

$$r^{\frac{3}{2}+h}\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right)t\Big]\Big)\Big) + \sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}$$

$$\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right)t\Big] - 5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right)t\Big]\Big)\Bigg)\Bigg)\Bigg) +$$

$$\mathrm{Sin}[t]\Bigg(-\mathrm{Sin}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Cos}\Big[$$

$$\left(-\frac{1}{2}+h\right)t\Big] - 7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right)t\Big]\Big)\Big) +$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right)t\Big] -$$

$$5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right)t\Big]\Big)\Bigg) +$$

$$2\,\mathrm{Cos}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}$$

$$\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right)t\Big] - 5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right)t\Big]\Big) +$$

$$\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right)t\Big] -$$

$$7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right)t\Big]\Big)\Bigg) +$$

$$\mathrm{Sin}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Cos}\Big[$$

$$\left(-\frac{1}{2}+h\right)t\Big] - 7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right)t\Big]\Big)\Big) +$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\mathrm{Sin}\Big[$$

$$\left(-\frac{1}{2}+h\right)t\Big] - 5\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right)t\Big]\Big)\Bigg) -$$

$$\frac{1}{r}\Bigg(\mathrm{Cos}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right)t\Big] -$$

$$5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right)t\Big]\Big) +$$

$$\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\Big[\left(-\frac{1}{2}+h\right)t\Big] -$$

$$7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\Big[\left(\frac{3}{2}+h\right)t\Big]\Big)\Bigg)\Bigg) -$$

$$\frac{1}{r}\Bigg(2\,\mathrm{Sin}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}$$

$$\mathrm{Cos}\Big[\left(-\frac{1}{2}+h\right)t\Big] - 7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\mathrm{Cos}\Big[\left(\frac{3}{2}+h\right)t\Big]\Big)\Big) +$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\Bigg)+$$

$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.\right.$$

$$\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^3 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.\left.7\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)+$$

$$\frac{1}{r^2}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\left.\left.\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\right)\right)$$

$$+\frac{1}{r^2}\left(2\,\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\right.\right.\right.\right.$$

$$\left.\left.r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-$$

$$\frac{1}{r^2}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}$$

$$\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)^2\right.\right.$$

$$\left.\left.\left.\left.\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)\right)-\frac{1}{r}\left(2\,\mathrm{Sin}[t]\left(-\mathrm{Sin}[t]\right.\right.$$

$$\left(\frac{\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}+\right.$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.5\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+2\,\mathrm{Cos}[t]$$

$$\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)^2\right.\right.$$

$$\left.r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.$$

$$\text{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\text{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)+$$

$$\text{Sin}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\text{Cos}\Big[$$

$$\left(-\frac{1}{2}+h\right)t\Big]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\text{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\text{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\text{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Bigg)-\frac{1}{r}\Bigg(\text{Cos}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}$$

$$\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\text{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\text{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\text{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\text{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\Bigg)$$

$$\Bigg)-\frac{1}{r}\Bigg(2\,\text{Sin}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}$$

$$\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\text{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)$$

$$r^{\frac{3}{2}+h}\,\text{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}$$

$$\text{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\text{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Bigg)\Bigg)+$$

$$\frac{1}{r}\Bigg(\text{Cos}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\text{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\text{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$

$$\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\text{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$7\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\text{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Bigg)\Bigg)\Bigg)\Bigg)+$$

$$\text{Cos}[t]\Bigg(-\text{Cos}[t]\Bigg(\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\text{Cos}\Big[$$

$$\left(-\frac{1}{2}+h\right)t\Big]-7\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\text{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\text{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\text{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Bigg)-$$

$$2\,\text{Sin}[t]\Bigg(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\Big(3\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}$$

$$\text{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\text{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Big)+$$

$$\frac{1}{3\sqrt{193\pi}}\Big(\sqrt{\alpha}\Big(3\left(\frac{1}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\text{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-$$

$$7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\Big)\Big)\Big)+$$

$$\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+\right.$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)^2 r^{-\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)+$$

$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\right.\right.$$

$$\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\Bigg)\Bigg)-$$

$$\frac{1}{r}\left(2\,\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.\right.\right.$$

$$\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Big)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Bigg)\Bigg)-$$

$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.\right.$$

$$\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^3 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.7\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\Bigg)-$$

$$\frac{1}{r^2}\left(\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.\left.\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\right)\right)$$

$$+\frac{1}{r^2}\left(2\,\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\right.\right.\right.\right.$$

$$\left.r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\Big)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\frac{1}{r^2}\left(\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}$$

$$\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)^2\right.\right.$$

$$\left.\left.\left.\left.\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)\right)-\frac{1}{r}\left(2\,\mathrm{Cos}[t]\left(-\mathrm{Cos}[t]\right.\right.$$

$$\left(\frac{\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}+\right.$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.5\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)-2\,\mathrm{Sin}[t]$$

$$\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)^2\right.\right.$$

$$\left.r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.$$

$$\left.\left.\left.\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)+$$

$$\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\right.\right.\right.\right.$$

$$\left.\left.\left.\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+\frac{1}{r}\left(\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\right.\right.$$

$$\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\left.\left.\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\right)\right)-\frac{1}{r}\left(2\,\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\pi}}\right.\right.$$

$$\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)\right.\right.$$

$$\left.\left.r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\right.$$

$$\left.\left.\left.\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-$$

$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2 r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}$$

$$\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)^2\right.\right.$$

$$\left.\left.\left.\left.\left.\left.\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)\right)\right)+\frac{1}{r}\left(\mathrm{Cos}[t]\left(-\mathrm{Cos}[t]\right.\right.$$

$$\left(\frac{\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}+\right.$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.5\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)-3\,\mathrm{Sin}[t]$$

$$\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(\frac{3}{2}+h\right)^2\right.\right.$$

$$\left.r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.$$

$$\left.\left.\left.\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)+$$

$$3\,\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.\right.$$

$$\left.\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$

$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$

$$\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+\mathrm{Sin}[t]$$

$$\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^3 r^{\frac{1}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}$$

$$\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$

$$\left.\left.\left.7\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)+$$

$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$

$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$

$$\left.\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\right)$$

$$\left.\right)-\frac{1}{r}\left(3\,\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\pi}}\right.\right.$$

$$\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)\right.\right.$$
$$\left.\left.r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\right.$$
$$\left.\left.\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\Bigg)-$$
$$\frac{1}{r}\left(3\,\mathrm{Sin}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\right.\right.\right.\right.$$
$$\left.\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\Bigg)+$$
$$\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$
$$\left.\left.\left.\left.7\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)+$$
$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\right.\right.\right.\right.\right.$$
$$\left.\left.\left.\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$
$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$
$$\left.\left.\left.\left.5\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)-\frac{1}{r}\left(\mathrm{Sin}[t]\left(\mathrm{Sin}\left[\right.\right.\right.$$
$$t]\left(\frac{\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\,\pi}}+\right.$$
$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\left(3\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$
$$\left.\left.5\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)-$$
$$3\,\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$
$$\left.5\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$
$$\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$
$$\left.\left.\left.7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-$$
$$3\,\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\,\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\right.\right.\right.$$
$$\left.\left.\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$
$$\sqrt{\frac{7}{579\,\pi}}\,\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$
$$\left.\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+\mathrm{Cos}[t]$$

$$\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$
$$\left.5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^3 r^{\frac{1}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+\frac{1}{3\sqrt{193\pi}}$$
$$\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)\left(\frac{3}{2}+h\right)r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$
$$\left.\left.\left.7\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right)^2 r^{\frac{1}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)+$$
$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.\right.$$
$$\left.5\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$
$$\left.\left.\frac{\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)}{3\sqrt{193\pi}}\right)\right)+\frac{1}{r}\left(3\,\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\right.\right.$$
$$\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)\right.\right.$$
$$\left.\left.r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\right.$$
$$\left.\left.\left.\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)-$$
$$\frac{1}{r}\left(3\,\mathrm{Cos}[t]\left(\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)\left(-\frac{1}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\right.\right.\right.\right.$$
$$\left.\left.\left(-\frac{1}{2}+h\right)t\right]-5\left(-\frac{3}{2}-h\right)\left(\frac{3}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)+$$
$$\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.\right.$$
$$\left.\left.\left.\left.7\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right)r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)-$$
$$\frac{1}{r}\left(\mathrm{Sin}[t]\left(\frac{1}{3\sqrt{193\pi}}\left(\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\right.\right.\right.\right.\right.$$
$$\left.\left.\left(-\frac{1}{2}+h\right)t\right]-7\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Cos}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)+$$
$$\sqrt{\frac{7}{579\pi}}\sqrt{\alpha}\left(3\left(\frac{1}{2}-h\right)^2\left(-\frac{1}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(-\frac{1}{2}+h\right)t\right]-\right.$$
$$\left.\left.\left.\left.\left.\left.\left.\left.5\left(-\frac{3}{2}-h\right)^2\left(\frac{3}{2}+h\right)^2 r^{\frac{3}{2}+h}\,\mathrm{Sin}\left[\left(\frac{3}{2}+h\right)t\right]\right)\right)\right)\right)\right)\right)\right)\right)$$

```
Simplify[lap[lap[u]]]
```

0

■ (10.22) Candidate W in polar coordinates (sign(A)=sign(B))

```
W = Sqrt[α / (193 * Pi)] * r^(3 / 2) *
  (Cos[t / 2] - (7 / 3) * Cos[3 * t / 2] +
    Sqrt[21] * (Sin[t / 2] - (5 / 3) * Sin[3 * t / 2]))
```

$$\frac{r^{3/2}\sqrt{\alpha}\left(\mathrm{Cos}[\frac{t}{2}]-\frac{7}{3}\mathrm{Cos}[\frac{3t}{2}]+\sqrt{21}\,(\mathrm{Sin}[\frac{t}{2}]-\frac{5}{3}\mathrm{Sin}[\frac{3t}{2}])\right)}{\sqrt{193\pi}}$$

■ (10.23) Re-normalization u of leading coefficients in W (sum of the two modes)

```
u = W /. α → 1
```

$$\frac{r^{3/2}\left(\mathrm{Cos}[\frac{t}{2}]-\frac{7}{3}\mathrm{Cos}[\frac{3t}{2}]+\sqrt{21}\,(\mathrm{Sin}[\frac{t}{2}]-\frac{5}{3}\mathrm{Sin}[\frac{3t}{2}])\right)}{\sqrt{193\pi}}$$

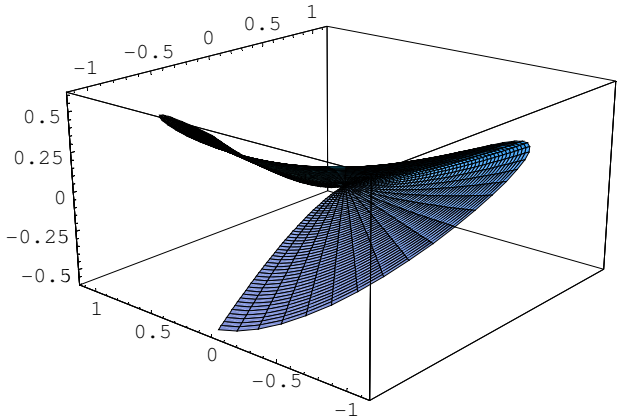
■ (10.24) Re-normalization of α in Φ (difference of the two modes)

■ (10.25) Graphs of candidates W and Φ in a disk (polar coordinates): Figg. 4 e 7

```
(* Graph in polar coordinates  (true coefficients, normalized α=1) *)

(*   Graph of W in polar coordinates
  (true coefficients, normalized α=1)   *)

ClearAll
```

```
ClearAll
```

```
W[r_, t_] := r^(3/2) *  1 / (Sqrt[193 * Pi]) *
                    ( Sqrt[21] * ( Sin[t/2] - 5/3 * Sin[3 * t/2] ) +
                                 ( Cos[t/2])  - 7/3 * Cos[3 * t/2]    )

ParametricPlot3D[{r * Cos[t] , r * Sin[t] , W[r, t], Hue[W[r, t]] },
       {r, 0, 1.1}, {t, -Pi, Pi},
 PlotPoints → 50, ViewPoint -> {-2.651, -2.271, 1.2}]
```

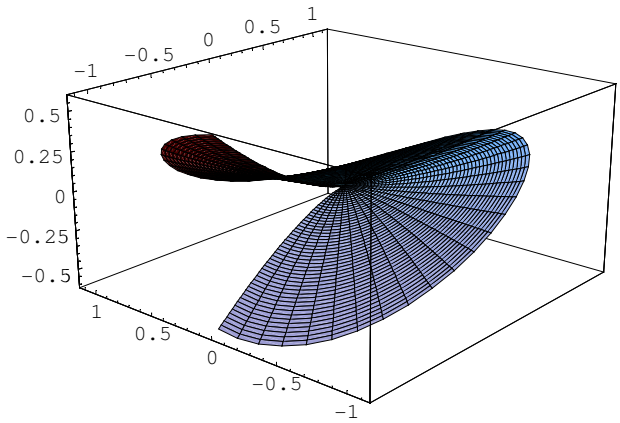


- Graphics3D -

```
(*   Graph of Φ in polar coordinates
  (true coefficients, normalized α=1)   *)

ClearAll
```

ClearAll

```
Φ[r_, t_] := r^(3/2) * 1 / (Sqrt[193 * Pi]) *
                    ( Sqrt[21] * ( Sin[t/2] - 5/3 * Sin[3 * t/2] ) -
                                 ( Cos[t/2]  - 7/3 * Cos[3 * t/2] )    )

ParametricPlot3D[{r * Cos[t] , r * Sin[t] , Φ[r, t], Hue[Φ[r, t]] },
       {r, 0, 1.1}, {t, -Pi, Pi},  PlotPoints → 50, ViewPoint -> {-2.651, -2.271, 1.2}]
```



- Graphics3D -

■ *(10.26) Candidate* W *in cartesian coordinates*

```
candW[x_, y_] =
 1 / Sqrt[193 * 2 * Pi] (Sqrt[21] *
     (Sign[y] * (x ^2 + y ^2) ^(1 / 2) *
        Sqrt[(x ^2 + y ^2) ^(1 / 2) - x] -
       5 / 3 * (y * Sqrt[(x ^2 + y ^2) ^(1 / 2) + x] +
          x * Sign[y] * Sqrt[(x ^2 + y ^2) ^(1 / 2) - x])) +
    (x ^2 + y ^2) * Sqrt[(x ^2 + y ^2) ^(1 / 2) + x] -
    7 / 3 (x * Sqrt[(x ^2 + y ^2) ^(1 / 2) + x] -
       Abs[y] * Sqrt[(x ^2 + y ^2) ^(1 / 2) - x]))
```

$$\frac{1}{\sqrt{386\,\pi}}\left((x^2+y^2)\sqrt{x+\sqrt{x^2+y^2}}-\frac{7}{3}\left(x\sqrt{x+\sqrt{x^2+y^2}}-\sqrt{-x+\sqrt{x^2+y^2}}\,\mathrm{Abs}[y]\right)+\sqrt{21}\left(\sqrt{x^2+y^2}\sqrt{-x+\sqrt{x^2+y^2}}\,\mathrm{Sign}[y]-\frac{5}{3}\left(y\sqrt{x+\sqrt{x^2+y^2}}+x\sqrt{-x+\sqrt{x^2+y^2}}\,\mathrm{Sign}[y]\right)\right)\right)$$

■ *(10.27) Candidate Φ in cartesian coordinates*

```
candΦ[x_, y_] =
 1 / Sqrt[193 * 2 * Pi] (Sqrt[21] *
     (Sign[y] * (x ^2 + y ^2) ^(1 / 2) *
        Sqrt[(x ^2 + y ^2) ^(1 / 2) - x] -
       5 / 3 * (y * Sqrt[(x ^2 + y ^2) ^(1 / 2) + x] +
          x * Sign[y] * Sqrt[(x ^2 + y ^2) ^(1 / 2) - x])) -
    ((x ^2 + y ^2) ^(1 / 2) * Sqrt[(x ^2 + y ^2) ^(1 / 2) + x] -
       7 / 3 (x * Sqrt[(x ^2 + y ^2) ^(1 / 2) + x] -
          Abs[y] * Sqrt[(x ^2 + y ^2) ^(1 / 2) - x])))
```

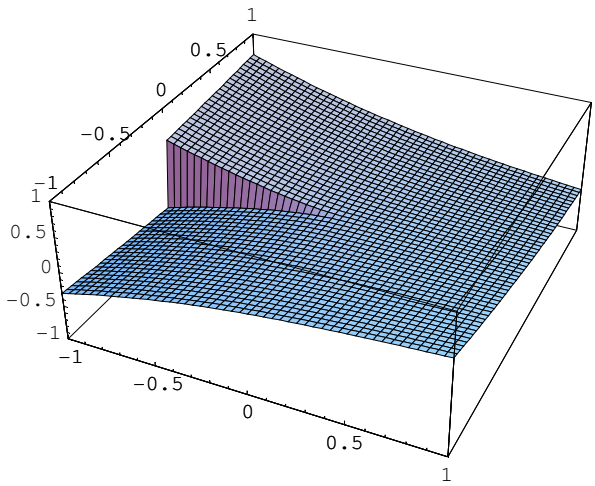
$$\frac{1}{\sqrt{386\,\pi}}\left(-\sqrt{x^2+y^2}\sqrt{x+\sqrt{x^2+y^2}}+\frac{7}{3}\left(x\sqrt{x+\sqrt{x^2+y^2}}-\sqrt{-x+\sqrt{x^2+y^2}}\,\mathrm{Abs}[y]\right)+\sqrt{21}\left(\sqrt{x^2+y^2}\sqrt{-x+\sqrt{x^2+y^2}}\,\mathrm{Sign}[y]-\frac{5}{3}\left(y\sqrt{x+\sqrt{x^2+y^2}}+x\sqrt{-x+\sqrt{x^2+y^2}}\,\mathrm{Sign}[y]\right)\right)\right)$$

■ (10.28) Graphs of candidate W in a square domain : Fig.6

```
candW[x_, y_] =
 1 / Sqrt[193 * 2 * Pi] (Sqrt[21] *
      (Sign[y] * (x ^2 + y ^2) ^ (1 / 2) *
         Sqrt[(x ^2 + y ^2) ^ (1 / 2) - x] -
        5 / 3 * (y * Sqrt[(x ^2 + y ^2) ^ (1 / 2) + x] +
           x * Sign[y] * Sqrt[(x ^2 + y ^2) ^ (1 / 2) - x])) +
     (x ^2 + y ^2) * Sqrt[(x ^2 + y ^2) ^ (1 / 2) + x] -
     7 / 3 (x * Sqrt[(x ^2 + y ^2) ^ (1 / 2) + x] -
        Abs[y] * Sqrt[(x ^2 + y ^2) ^ (1 / 2) - x]))
```

$$\frac{1}{\sqrt{386\,\pi}}\left((x^2+y^2)\sqrt{x+\sqrt{x^2+y^2}}-\frac{7}{3}\left(x\sqrt{x+\sqrt{x^2+y^2}}-\sqrt{-x+\sqrt{x^2+y^2}}\,\mathrm{Abs}[y]\right)+\sqrt{21}\left(\sqrt{x^2+y^2}\sqrt{-x+\sqrt{x^2+y^2}}\,\mathrm{Sign}[y]-\frac{5}{3}\left(y\sqrt{x+\sqrt{x^2+y^2}}+x\sqrt{-x+\sqrt{x^2+y^2}}\,\mathrm{Sign}[y]\right)\right)\right)$$

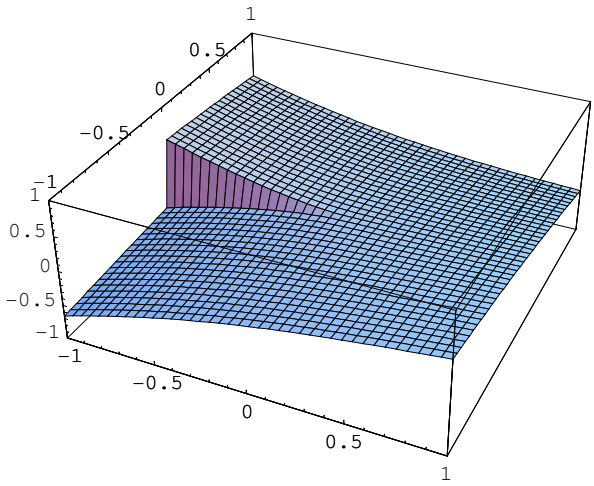
```
Plot3D[candW[x, y] , {x, -1, 1}, {y, -1, 1},
 PlotPoints → 50, PlotRange → {-1, 1},
 ViewPoint -> {1.196, -2.581, 1.833}]
```



- SurfaceGraphics -

■ (10.29) Graphs of candidates Φ in a square domain : Fig.9

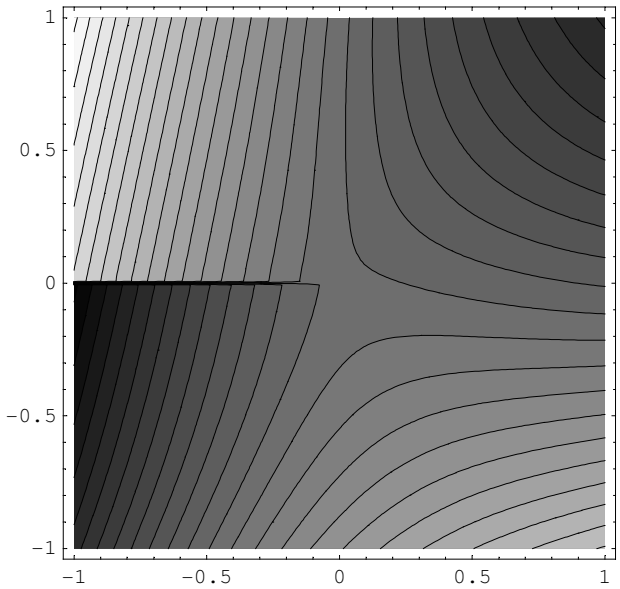
```
(* Generazione della Fig. 5 di BZEE, caption: Level lines of W *)
Plot3D[candΦ[x, y] , {x, -1, 1}, {y, -1, 1},
  PlotPoints → 40, PlotRange → {-1, 1}, ViewPoint -> {1.196, -2.581, 1.833}]
```



- SurfaceGraphics -

■ (10.30) Level lines of candidate W (cartesian coordinates): Fig. 5

```
ContourPlot[candW[x, y], {x, -1, 1},
 {y, -1, 1}, PlotPoints → 140, Contours → 30]
```



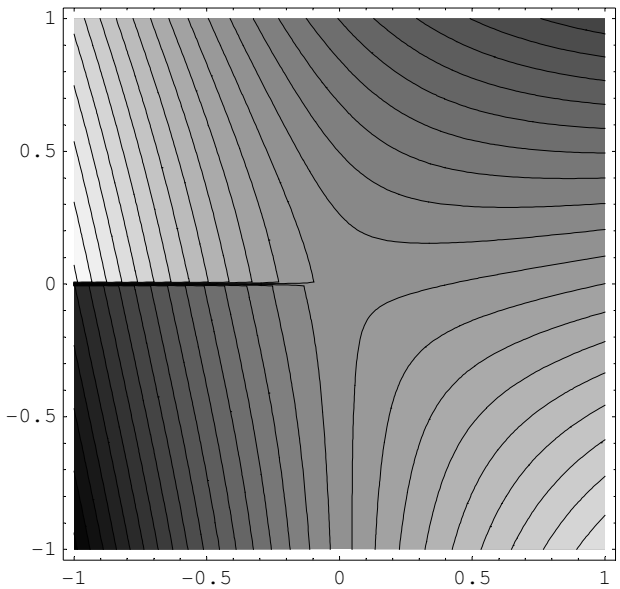
- ContourGraphics -

■ (10.31) Level lines of candidate Φ (cartesian coordinates): Fig. 8

```
candΦ[x_, y_] =
 1 / Sqrt[193 * 2 * Pi] (Sqrt[21] *
     (Sign[y] * (x ^2 + y ^2) ^(1 / 2) *
        Sqrt[(x ^2 + y ^2) ^(1 / 2) - x] -
       5 / 3 * (y * Sqrt[(x ^2 + y ^2) ^(1 / 2) + x] +
          x * Sign[y] * Sqrt[(x ^2 + y ^2) ^(1 / 2) - x])) -
    ((x ^2 + y ^2) ^(1 / 2) * Sqrt[(x ^2 + y ^2) ^(1 / 2) + x] -
      7 / 3 (x * Sqrt[(x ^2 + y ^2) ^(1 / 2) + x] -
         Abs[y] * Sqrt[(x ^2 + y ^2) ^(1 / 2) - x])))
```

$$\frac{1}{\sqrt{386\,\pi}}\left(-\sqrt{x^2+y^2}\,\sqrt{x+\sqrt{x^2+y^2}}+\frac{7}{3}\left(x\sqrt{x+\sqrt{x^2+y^2}}-\sqrt{-x+\sqrt{x^2+y^2}}\,\mathrm{Abs}[y]\right)+\sqrt{21}\left(\sqrt{x^2+y^2}\,\sqrt{-x+\sqrt{x^2+y^2}}\,\mathrm{Sign}[y]-\frac{5}{3}\left(y\sqrt{x+\sqrt{x^2+y^2}}+x\sqrt{-x+\sqrt{x^2+y^2}}\,\mathrm{Sign}[y]\right)\right)\right)$$

```
ContourPlot[candΦ[x, y], {x, -1, 1},
 {y, -1, 1}, PlotPoints → 140, Contours → 30]
```



- ContourGraphics -

ClearAll

ClearAll

COMPLEX BASIS : H^2 complete set for V (redundant in L^2) : $\{\{v_k\}, \{z_k\}\}$ $k \in \mathbb{Z}$ (indexed by k here, parametrized by h in the paper)

and scalar products $(.,.)_\rho$ in $H^2(B_\rho \setminus \Gamma)$

■ Differential operators

```
dx[u_] := Cos[ϑ] * D[u, r] - Sin[ϑ] * D[u, ϑ] / r
dy[u_] := Sin[ϑ] * D[u, r] + Cos[ϑ] * D[u, ϑ] / r
dxx[u_] := dx[dx[u]]
dyy[u_] := dy[dy[u]]
dxy[u_] := dx[dy[u]]
dyx[u_] := dy[dx[u]]
lap[u_] := dxx[u] + dyy[u]
hes2[u_] := dxx[u]^2 + dyy[u]^2 + 2 * dxy[u]^2
prodscalH2[u_, v_] := Integrate[
  (dxx[u] * dxx[v] + dyy[u] * dyy[v] + 2 dxy[u] * dxy[v]) * r, {r, 0, R}, {ϑ, -Pi, Pi}]


prodscalHERMITIANOH2[u_, v_] := Integrate[
  (Simplify[dxx[u] * Conjugate[dxx[v]]] + Simplify[dyy[u] * Conjugate[dyy[v]]] +
     Simplify[2 dxy[u] * Conjugate[dxy[v]]]) * r, {r, 0, R},
  {ϑ, -Pi, Pi}, Assumptions → {k ∈ Integers, ϑ ∈ Reals, r ∈ Reals}]

lap[lap[r^p * ψ[ϑ]]]

Simplify[%]
```

$r^{-4+p}\left((-2+p)^2 p^2 \psi[\vartheta] + 2\,(2-2p+p^2)\,\psi''[\vartheta] + \psi^{(4)}[\vartheta]\right)$

■ v_k , z_k (L^2) Redundant complete sets (parameter h in the paper)

■ v_k , z_k (H^2) Minimal complete sets (parameter h in the paper)

```
v[k_] := r^(Abs[k] - 1 / 2) * E^(I * (k - 1 / 2) * ϑ)

z[k_] := r^(Abs[k] + 3 / 2) * E^(I * (k - 1 / 2) * ϑ)

cv[k_] := r^(Abs[k] - 1 / 2) * E^(-I * (k - 1 / 2) * ϑ)

cz[k_] := r^(Abs[k] + 3 / 2) * E^(-I * (k - 1 / 2) * ϑ)

hes11[u_] := dxx[u]

hes22[u_] := dyy[u]

hes12[u_] := dxy[u]

hes21[u_] := dyx[u]
```

(10.32) HESSIAN OF FUNCTIONS OF FIRST KIND (v_k)

hes11[v[k]]

$$\mathrm{Cos}[\vartheta]\left(e^{i\left(-\frac{1}{2}+k\right)\vartheta} r^{-\frac{5}{2}+\mathrm{Abs}[k]}\left(-\frac{3}{2}+\mathrm{Abs}[k]\right)\left(-\frac{1}{2}+\mathrm{Abs}[k]\right)\mathrm{Cos}[\vartheta]-i\, e^{i\left(-\frac{1}{2}+k\right)\vartheta}\left(-\frac{1}{2}+k\right) r^{-\frac{5}{2}+\mathrm{Abs}[k]}\left(-\frac{3}{2}+\mathrm{Abs}[k]\right)\mathrm{Sin}[\vartheta]\right)-\frac{1}{r}\left(\mathrm{Sin}[\vartheta]\left(-i\, e^{i\left(-\frac{1}{2}+k\right)\vartheta}\left(-\frac{1}{2}+k\right) r^{-\frac{3}{2}+\mathrm{Abs}[k]}\mathrm{Cos}[\vartheta]+i\, e^{i\left(-\frac{1}{2}+k\right)\vartheta}\left(-\frac{1}{2}+k\right) r^{-\frac{3}{2}+\mathrm{Abs}[k]}\left(-\frac{1}{2}+\mathrm{Abs}[k]\right)\mathrm{Cos}[\vartheta]+e^{i\left(-\frac{1}{2}+k\right)\vartheta}\left(-\frac{1}{2}+k\right)^2 r^{-\frac{3}{2}+\mathrm{Abs}[k]}\mathrm{Sin}[\vartheta]-e^{i\left(-\frac{1}{2}+k\right)\vartheta} r^{-\frac{3}{2}+\mathrm{Abs}[k]}\left(-\frac{1}{2}+\mathrm{Abs}[k]\right)\mathrm{Sin}[\vartheta]\right)\right)$$

Simplify[%, {k} ∈ Integers]

$$\frac{1}{4} e^{i\left(-\frac{1}{2}+k\right)\vartheta} r^{-\frac{5}{2}+\mathrm{Abs}[k]}\left(2k+\left(3-2k+4k^2\right)\mathrm{Cos}[2\vartheta]-6\, i\,\mathrm{Cos}[\vartheta]\,\mathrm{Sin}[\vartheta]+6\, i\, k\,\mathrm{Sin}[2\vartheta]-2\,\mathrm{Abs}[k]\left(1+3\,\mathrm{Cos}[2\vartheta]+i\left(-1+2k\right)\mathrm{Sin}[2\vartheta]\right)\right)$$

TeXForm[%]

```
\frac{e^{\imag \,\left( -\left( \frac{1}{2} \right)  + k \right) \,\vartheta }\,
    r^{-\left( \frac{5}{2} \right)  + \Mfunction{Abs}(k)}\,
    \left( 2\,k + \left( 3 - 2\,k + 4\,k^2 \right) \,\cos (2\,\vartheta ) -
      \left( 6\,\imag  \right) \,\cos (\vartheta )\,\sin (\vartheta ) +
      \left( 6\,\imag  \right) \,k\,\sin (2\,\vartheta ) -
      2\,\Mfunction{Abs}(k)\,\left( 1 + 3\,\cos (2\,\vartheta ) +
         \imag \,\left( -1 + 2\,k \right) \,\sin (2\,\vartheta ) \right)  \right)
}{
    4}
```

hes22[v[k]]

$$\frac{1}{r}\left(\mathrm{Cos}[\vartheta]\left(-e^{i\left(-\frac{1}{2}+k\right)\vartheta}\left(-\frac{1}{2}+k\right)^2 r^{-\frac{3}{2}+\mathrm{Abs}[k]}\mathrm{Cos}[\vartheta]+e^{i\left(-\frac{1}{2}+k\right)\vartheta} r^{-\frac{3}{2}+\mathrm{Abs}[k]}\left(-\frac{1}{2}+\mathrm{Abs}[k]\right)\mathrm{Cos}[\vartheta]-i\, e^{i\left(-\frac{1}{2}+k\right)\vartheta}\left(-\frac{1}{2}+k\right) r^{-\frac{3}{2}+\mathrm{Abs}[k]}\mathrm{Sin}[\vartheta]+i\, e^{i\left(-\frac{1}{2}+k\right)\vartheta}\left(-\frac{1}{2}+k\right) r^{-\frac{3}{2}+\mathrm{Abs}[k]}\left(-\frac{1}{2}+\mathrm{Abs}[k]\right)\mathrm{Sin}[\vartheta]\right)+\mathrm{Sin}[\vartheta]\left(i\, e^{i\left(-\frac{1}{2}+k\right)\vartheta}\left(-\frac{1}{2}+k\right) r^{-\frac{5}{2}+\mathrm{Abs}[k]}\left(-\frac{3}{2}+\mathrm{Abs}[k]\right)\mathrm{Cos}[\vartheta]+e^{i\left(-\frac{1}{2}+k\right)\vartheta} r^{-\frac{5}{2}+\mathrm{Abs}[k]}\left(-\frac{3}{2}+\mathrm{Abs}[k]\right)\left(-\frac{1}{2}+\mathrm{Abs}[k]\right)\mathrm{Sin}[\vartheta]\right)$$

Simplify[% , {k} ∈ Integers]

$$-\frac{1}{4} e^{i\left(-\frac{1}{2}+k\right)\vartheta} r^{-\frac{5}{2}+\mathrm{Abs}[k]}\left(-2k+\left(3-2k+4k^2\right)\mathrm{Cos}[2\vartheta]-6\, i\,\mathrm{Cos}[\vartheta]\,\mathrm{Sin}[\vartheta]+6\, i\, k\,\mathrm{Sin}[2\vartheta]+\mathrm{Abs}[k]\left(2-6\,\mathrm{Cos}[2\vartheta]-2\, i\left(-1+2k\right)\mathrm{Sin}[2\vartheta]\right)\right)$$

TeXForm[%]

```
\frac{-\left( e^{\imag \,\left( -\left( \frac{1}{2} \right)  + k \right) \,
         \vartheta }\,r^{-\left( \frac{5}{2} \right)  + \Mfunction{Abs}(k)}\,
      \left( -2\,k + \left( 3 - 2\,k + 4\,k^2 \right) \,\cos (2\,\vartheta ) -
        \left( 6\,\imag  \right) \,\cos (\vartheta )\,\sin (\vartheta ) +
        \left( 6\,\imag  \right) \,k\,\sin (2\,\vartheta ) +
        \Mfunction{Abs}(k)\,\left( 2 - 6\,\cos (2\,\vartheta ) -
           \left( 2\,\imag  \right) \,\left( -1 + 2\,k \right) \,\sin
(2\,\vartheta )
           \right)  \right)  \right) }{4}
```

hes12[v[k]]

$$-\frac{1}{r}\left(\text{Sin}[\vartheta]\left(-e^{i\left(-\frac{1}{2}+k\right)\vartheta}\left(-\frac{1}{2}+k\right)^2 r^{-\frac{3}{2}+\text{Abs}[k]}\,\text{Cos}[\vartheta]+e^{i\left(-\frac{1}{2}+k\right)\vartheta} r^{-\frac{3}{2}+\text{Abs}[k]}\left(-\frac{1}{2}+\text{Abs}[k]\right)\text{Cos}[\vartheta]-i\,e^{i\left(-\frac{1}{2}+k\right)\vartheta}\left(-\frac{1}{2}+k\right) r^{-\frac{3}{2}+\text{Abs}[k]}\,\text{Sin}[\vartheta]+i\,e^{i\left(-\frac{1}{2}+k\right)\vartheta}\left(-\frac{1}{2}+k\right) r^{-\frac{3}{2}+\text{Abs}[k]}\left(-\frac{1}{2}+\text{Abs}[k]\right)\text{Sin}[\vartheta]\right)\right)+\text{Cos}[\vartheta]\left(i\,e^{i\left(-\frac{1}{2}+k\right)\vartheta}\left(-\frac{1}{2}+k\right) r^{-\frac{5}{2}+\text{Abs}[k]}\left(-\frac{3}{2}+\text{Abs}[k]\right)\text{Cos}[\vartheta]+e^{i\left(-\frac{1}{2}+k\right)\vartheta} r^{-\frac{5}{2}+\text{Abs}[k]}\left(-\frac{3}{2}+\text{Abs}[k]\right)\left(-\frac{1}{2}+\text{Abs}[k]\right)\text{Sin}[\vartheta]\right)$$

Simplify[%, {k} ∈ Integers]

$$\frac{1}{4}\,e^{i\left(-\frac{1}{2}+k\right)\vartheta} r^{-\frac{5}{2}+\text{Abs}[k]}\left(-3\,i\,(-1+2\,k)\,\text{Cos}[2\,\vartheta]+2\,i\,\text{Abs}[k]\,((-1+2\,k)\,\text{Cos}[2\,\vartheta]+3\,i\,\text{Sin}[2\,\vartheta])+(3-2\,k+4\,k^2)\,\text{Sin}[2\,\vartheta]\right)$$

TeXForm[%]

```
\frac{e^{\imag \,\left( -\left( \frac{1}{2} \right)  + k \right) \,\vartheta }\,
    r^{-\left( \frac{5}{2} \right)  + \Mfunction{Abs}(k)}\,
    \left( \left( -3\,\imag  \right) \,\left( -1 + 2\,k \right) \,
       \cos (2\,\vartheta ) + \left( 2\,\imag  \right) \,\Mfunction{Abs}(k)\,
       \left( \left( -1 + 2\,k \right) \,\cos (2\,\vartheta ) +
         \left( 3\,\imag  \right) \,\sin (2\,\vartheta ) \right)  +
      \left( 3 - 2\,k + 4\,k^2 \right) \,\sin (2\,\vartheta ) \right) }{4}
```

hes21[v[k]]

$$\text{Sin}[\vartheta]\left(e^{i\left(-\frac{1}{2}+k\right)\vartheta} r^{-\frac{5}{2}+\text{Abs}[k]}\left(-\frac{3}{2}+\text{Abs}[k]\right)\left(-\frac{1}{2}+\text{Abs}[k]\right)\text{Cos}[\vartheta]-i\,e^{i\left(-\frac{1}{2}+k\right)\vartheta}\left(-\frac{1}{2}+k\right) r^{-\frac{5}{2}+\text{Abs}[k]}\left(-\frac{3}{2}+\text{Abs}[k]\right)\text{Sin}[\vartheta]\right)+\frac{1}{r}\left(\text{Cos}[\vartheta]\left(-i\,e^{i\left(-\frac{1}{2}+k\right)\vartheta}\left(-\frac{1}{2}+k\right) r^{-\frac{3}{2}+\text{Abs}[k]}\,\text{Cos}[\vartheta]+i\,e^{i\left(-\frac{1}{2}+k\right)\vartheta}\left(-\frac{1}{2}+k\right) r^{-\frac{3}{2}+\text{Abs}[k]}\left(-\frac{1}{2}+\text{Abs}[k]\right)\text{Cos}[\vartheta]+e^{i\left(-\frac{1}{2}+k\right)\vartheta}\left(-\frac{1}{2}+k\right)^2 r^{-\frac{3}{2}+\text{Abs}[k]}\,\text{Sin}[\vartheta]-e^{i\left(-\frac{1}{2}+k\right)\vartheta} r^{-\frac{3}{2}+\text{Abs}[k]}\left(-\frac{1}{2}+\text{Abs}[k]\right)\text{Sin}[\vartheta]\right)\right)$$

Simplify[% , {k} ∈ Integers]

$$\frac{1}{4}\,e^{i\left(-\frac{1}{2}+k\right)\vartheta} r^{-\frac{5}{2}+\text{Abs}[k]}\left(-3\,i\,(-1+2\,k)\,\text{Cos}[2\,\vartheta]+2\,i\,\text{Abs}[k]\,((-1+2\,k)\,\text{Cos}[2\,\vartheta]+3\,i\,\text{Sin}[2\,\vartheta])+(3-2\,k+4\,k^2)\,\text{Sin}[2\,\vartheta]\right)$$

TeXForm[%]

```
\frac{e^{\imag \,\left( -\left( \frac{1}{2} \right)  + k \right) \,\vartheta }\,
    r^{-\left( \frac{5}{2} \right)  + \Mfunction{Abs}(k)}\,
    \left( \left( -3\,\imag  \right) \,\left( -1 + 2\,k \right) \,
       \cos (2\,\vartheta ) + \left( 2\,\imag  \right) \,\Mfunction{Abs}(k)\,
       \left( \left( -1 + 2\,k \right) \,\cos (2\,\vartheta ) +
         \left( 3\,\imag  \right) \,\sin (2\,\vartheta ) \right)  +
      \left( 3 - 2\,k + 4\,k^2 \right) \,\sin (2\,\vartheta ) \right) }{4}
```

(10.33) HESSIAN OF FUNCTIONS OF SECOND KIND (z_k)

hes11[z[k]]

$$\mathrm{Cos}[\vartheta]\left(e^{i\left(-\frac{1}{2}+k\right)\vartheta} r^{-\frac{1}{2}+\mathrm{Abs}[k]}\left(\frac{1}{2}+\mathrm{Abs}[k]\right)\left(\frac{3}{2}+\mathrm{Abs}[k]\right)\mathrm{Cos}[\vartheta]-i\,e^{i\left(-\frac{1}{2}+k\right)\vartheta}\left(-\frac{1}{2}+k\right) r^{-\frac{1}{2}+\mathrm{Abs}[k]}\left(\frac{1}{2}+\mathrm{Abs}[k]\right)\mathrm{Sin}[\vartheta]\right)-\frac{1}{r}\left(\mathrm{Sin}[\vartheta]\left(-i\,e^{i\left(-\frac{1}{2}+k\right)\vartheta}\left(-\frac{1}{2}+k\right) r^{\frac{1}{2}+\mathrm{Abs}[k]}\mathrm{Cos}[\vartheta]+i\,e^{i\left(-\frac{1}{2}+k\right)\vartheta}\left(-\frac{1}{2}+k\right) r^{\frac{1}{2}+\mathrm{Abs}[k]}\left(\frac{3}{2}+\mathrm{Abs}[k]\right)\mathrm{Cos}[\vartheta]+e^{i\left(-\frac{1}{2}+k\right)\vartheta}\left(-\frac{1}{2}+k\right)^2 r^{\frac{1}{2}+\mathrm{Abs}[k]}\mathrm{Sin}[\vartheta]-e^{i\left(-\frac{1}{2}+k\right)\vartheta} r^{\frac{1}{2}+\mathrm{Abs}[k]}\left(\frac{3}{2}+\mathrm{Abs}[k]\right)\mathrm{Sin}[\vartheta]\right)\right)$$

Simplify[% , {k} ∈ Integers]

$$\frac{1}{4} e^{i\left(-\frac{1}{2}+k\right)\vartheta} r^{-\frac{1}{2}+\mathrm{Abs}[k]}\left(4+2k+\left(-1-2k+4k^2\right)\mathrm{Cos}[2\vartheta]+2\,i\,\mathrm{Cos}[\vartheta]\,\mathrm{Sin}[\vartheta]-4\,i\,k\,\mathrm{Cos}[\vartheta]\,\mathrm{Sin}[\vartheta]+2\,\mathrm{Abs}[k]\left(3+\mathrm{Cos}[2\vartheta]-i\left(-1+2k\right)\mathrm{Sin}[2\vartheta]\right)\right)$$

TeXForm[%]

```
\frac{e^{\imag \,\left( -\left( \frac{1}{2} \right)  + k \right) \,\vartheta }\,
    r^{-\left( \frac{1}{2} \right)  + \Mfunction{Abs}(k)}\,
    \left( 4 + 2\,k + \left( -1 - 2\,k + 4\,k^2 \right) \,\cos (2\,\vartheta ) +
      \left( 2\,\imag  \right) \,\cos (\vartheta )\,\sin (\vartheta ) -
      \left( 4\,\imag  \right) \,k\,\cos (\vartheta )\,\sin (\vartheta ) +
      2\,\Mfunction{Abs}(k)\,\left( 3 + \cos (2\,\vartheta ) -
         \imag \,\left( -1 + 2\,k \right) \,\sin (2\,\vartheta ) \right)  \right)
}{
    4}
```

hes22[z[k]]

$$\frac{1}{r}\left(\mathrm{Cos}[\vartheta]\left(-e^{i\left(-\frac{1}{2}+k\right)\vartheta}\left(-\frac{1}{2}+k\right)^2 r^{\frac{1}{2}+\mathrm{Abs}[k]}\mathrm{Cos}[\vartheta]+e^{i\left(-\frac{1}{2}+k\right)\vartheta} r^{\frac{1}{2}+\mathrm{Abs}[k]}\left(\frac{3}{2}+\mathrm{Abs}[k]\right)\mathrm{Cos}[\vartheta]-i\,e^{i\left(-\frac{1}{2}+k\right)\vartheta}\left(-\frac{1}{2}+k\right) r^{\frac{1}{2}+\mathrm{Abs}[k]}\mathrm{Sin}[\vartheta]+i\,e^{i\left(-\frac{1}{2}+k\right)\vartheta}\left(-\frac{1}{2}+k\right) r^{\frac{1}{2}+\mathrm{Abs}[k]}\left(\frac{3}{2}+\mathrm{Abs}[k]\right)\mathrm{Sin}[\vartheta]\right)\right)+\mathrm{Sin}[\vartheta]\left(i\,e^{i\left(-\frac{1}{2}+k\right)\vartheta}\left(-\frac{1}{2}+k\right) r^{-\frac{1}{2}+\mathrm{Abs}[k]}\left(\frac{1}{2}+\mathrm{Abs}[k]\right)\mathrm{Cos}[\vartheta]+e^{i\left(-\frac{1}{2}+k\right)\vartheta} r^{-\frac{1}{2}+\mathrm{Abs}[k]}\left(\frac{1}{2}+\mathrm{Abs}[k]\right)\left(\frac{3}{2}+\mathrm{Abs}[k]\right)\mathrm{Sin}[\vartheta]\right)$$

Simplify[% , {k} ∈ Integers]

$$\frac{1}{4} e^{i\left(-\frac{1}{2}+k\right)\vartheta} r^{-\frac{1}{2}+\mathrm{Abs}[k]}\left(4+2k+\left(1+2k-4k^2\right)\mathrm{Cos}[2\vartheta]-i\,\mathrm{Sin}[2\vartheta]+2\,i\,k\,\mathrm{Sin}[2\vartheta]-2\,\mathrm{Abs}[k]\left(-3+\mathrm{Cos}[2\vartheta]-i\left(-1+2k\right)\mathrm{Sin}[2\vartheta]\right)\right)$$

TeXForm[%]

```
\frac{e^{\imag \,\left( -\left( \frac{1}{2} \right)  + k \right) \,\vartheta }\,
    r^{-\left( \frac{1}{2} \right)  + \Mfunction{Abs}(k)}\,
    \left( 4 + 2\,k + \left( 1 + 2\,k - 4\,k^2 \right) \,\cos (2\,\vartheta ) -
      \imag \,\sin (2\,\vartheta ) +
      \left( 2\,\imag  \right) \,k\,\sin (2\,\vartheta ) -
      2\,\Mfunction{Abs}(k)\,\left( -3 + \cos (2\,\vartheta ) -
         \imag \,\left( -1 + 2\,k \right) \,\sin (2\,\vartheta ) \right)  \right)
}{
    4}
```

hes12[z[k]]

$$-\frac{1}{r}\left(\text{Sin}[\vartheta]\left(-e^{i\left(-\frac{1}{2}+k\right)\vartheta}\left(-\frac{1}{2}+k\right)^2 r^{\frac{1}{2}+\text{Abs}[k]}\,\text{Cos}[\vartheta]+e^{i\left(-\frac{1}{2}+k\right)\vartheta} r^{\frac{1}{2}+\text{Abs}[k]}\left(\frac{3}{2}+\text{Abs}[k]\right)\text{Cos}[\vartheta]-i\,e^{i\left(-\frac{1}{2}+k\right)\vartheta}\left(-\frac{1}{2}+k\right) r^{\frac{1}{2}+\text{Abs}[k]}\,\text{Sin}[\vartheta]+i\,e^{i\left(-\frac{1}{2}+k\right)\vartheta}\left(-\frac{1}{2}+k\right) r^{\frac{1}{2}+\text{Abs}[k]}\left(\frac{3}{2}+\text{Abs}[k]\right)\text{Sin}[\vartheta]\right)+\text{Cos}[\vartheta]\left(i\,e^{i\left(-\frac{1}{2}+k\right)\vartheta}\left(-\frac{1}{2}+k\right) r^{-\frac{1}{2}+\text{Abs}[k]}\left(\frac{1}{2}+\text{Abs}[k]\right)\text{Cos}[\vartheta]+e^{i\left(-\frac{1}{2}+k\right)\vartheta} r^{-\frac{1}{2}+\text{Abs}[k]}\left(\frac{1}{2}+\text{Abs}[k]\right)\left(\frac{3}{2}+\text{Abs}[k]\right)\text{Sin}[\vartheta]\right)$$

Simplify[% , {k} ∈ Integers]

$$\frac{1}{4}\,e^{i\left(-\frac{1}{2}+k\right)\vartheta} r^{-\frac{1}{2}+\text{Abs}[k]}\left(i\,(-1+2\,k)\,\text{Cos}[2\,\vartheta]+(-1-2\,k+4\,k^2)\,\text{Sin}[2\,\vartheta]+2\,\text{Abs}[k]\,(i\,(-1+2\,k)\,\text{Cos}[2\,\vartheta]+\text{Sin}[2\,\vartheta])\right)$$

TeXForm[%]

```
\frac{e^{\imag \,\left( -\left( \frac{1}{2} \right)  + k \right) \,\vartheta }\,
    r^{-\left( \frac{1}{2} \right)  + \Mfunction{Abs}(k)}\,
    \left( \imag \,\left( -1 + 2\,k \right) \,\cos (2\,\vartheta ) +
      \left( -1 - 2\,k + 4\,k^2 \right) \,\sin (2\,\vartheta ) +
      2\,\Mfunction{Abs}(k)\,\left( \imag \,\left( -1 + 2\,k \right) \,
          \cos (2\,\vartheta ) + \sin (2\,\vartheta ) \right)  \right) }{4}
```

hes21[z[k]]

$$\text{Sin}[\vartheta]\left(e^{i\left(-\frac{1}{2}+k\right)\vartheta} r^{-\frac{1}{2}+\text{Abs}[k]}\left(\frac{1}{2}+\text{Abs}[k]\right)\left(\frac{3}{2}+\text{Abs}[k]\right)\text{Cos}[\vartheta]-i\,e^{i\left(-\frac{1}{2}+k\right)\vartheta}\left(-\frac{1}{2}+k\right) r^{-\frac{1}{2}+\text{Abs}[k]}\left(\frac{1}{2}+\text{Abs}[k]\right)\text{Sin}[\vartheta]\right)+\frac{1}{r}\left(\text{Cos}[\vartheta]\left(-i\,e^{i\left(-\frac{1}{2}+k\right)\vartheta}\left(-\frac{1}{2}+k\right) r^{\frac{1}{2}+\text{Abs}[k]}\,\text{Cos}[\vartheta]+i\,e^{i\left(-\frac{1}{2}+k\right)\vartheta}\left(-\frac{1}{2}+k\right) r^{\frac{1}{2}+\text{Abs}[k]}\left(\frac{3}{2}+\text{Abs}[k]\right)\text{Cos}[\vartheta]+e^{i\left(-\frac{1}{2}+k\right)\vartheta}\left(-\frac{1}{2}+k\right)^2 r^{\frac{1}{2}+\text{Abs}[k]}\,\text{Sin}[\vartheta]-e^{i\left(-\frac{1}{2}+k\right)\vartheta} r^{\frac{1}{2}+\text{Abs}[k]}\left(\frac{3}{2}+\text{Abs}[k]\right)\text{Sin}[\vartheta]\right)\right)$$

Simplify[% , {k} ∈ Integers]

$$\frac{1}{4}\,e^{i\left(-\frac{1}{2}+k\right)\vartheta} r^{-\frac{1}{2}+\text{Abs}[k]}\left(i\,(-1+2\,k)\,\text{Cos}[2\,\vartheta]+(-1-2\,k+4\,k^2)\,\text{Sin}[2\,\vartheta]+2\,\text{Abs}[k]\,(i\,(-1+2\,k)\,\text{Cos}[2\,\vartheta]+\text{Sin}[2\,\vartheta])\right)$$

```
TeXForm[%]
```

```
\frac{e^{\imag \,\left( -\left( \frac{1}{2} \right)  + k \right) \,\vartheta }\,
    r^{-\left( \frac{1}{2} \right)  + \Mfunction{Abs}(k)}\,
    \left( \imag \,\left( -1 + 2\,k \right) \,\cos (2\,\vartheta ) +
      \left( -1 - 2\,k + 4\,k^2 \right) \,\sin (2\,\vartheta ) +
      2\,\Mfunction{Abs}(k)\,\left( \imag \,\left( -1 + 2\,k \right) \,
          \cos (2\,\vartheta ) + \sin (2\,\vartheta ) \right)  \right) }{4}
```

(10.34) COMPUTATION OF SCALAR PRODUCTS IN H^2 FOR $\{\{v_k\}, \{z_k\}\}$ $k \in \mathbb{Z}$

```
prodscalH2[v[k], cv[h]]
```

$$\frac{1}{2\,(h-k)}\Big((9-12\,h+3\,h^2-12\,k+22\,h\,k-4\,h^2\,k+3\,k^2-4\,h\,k^2+4\,h^2\,k^2+ 3\,h\,\text{Conjugate}[h]-2\,\text{Abs}[k]\,(6-5\,h+2\,h^2-3\,k+6\,h\,k+4\,h\,\text{Conjugate}[h])+ 3\,k\,\text{Conjugate}[k]+4\,h\,k\,\text{Conjugate}[h]\,\text{Conjugate}[k]+ 2\,\text{Abs}[h]\,(-6+3\,h+5\,k-6\,h\,k-2\,k^2+(11-2\,h-2\,k+4\,h\,k)\,\text{Abs}[k]-4\,k\,\text{Conjugate}[k]))\,\text{If}\Big[\text{Re}[h+k]>3,\ \frac{R^{-3+\text{Abs}[h]+\text{Abs}[k]}}{-3+\text{Abs}[h]+\text{Abs}[k]},\ \text{Integrate}[r^{-4+\text{Abs}[h]+\text{Abs}[k]},\ \{r,0,R\},\ \text{Assumptions}\to\text{Re}[h+k]\le 3]\Big]\,\text{Sin}[(h-k)\,\pi]\Big)$$

```
Simplify[%, {h, k} ∈ Integers]
```

0

```
prodscalH2[v[k], cz[h]]
```

$$\frac{1}{2\,(h-k)}\Big((-3+3\,h^2+8\,k-2\,h\,k-4\,h^2\,k-5\,k^2-4\,h\,k^2+4\,h^2\,k^2+ 3\,h\,\text{Conjugate}[h]-2\,\text{Abs}[k]\,((-1+2\,h)\,(h-k)+4\,h\,\text{Conjugate}[h])+ 3\,k\,\text{Conjugate}[k]+4\,h\,k\,\text{Conjugate}[h]\,\text{Conjugate}[k]+ 2\,\text{Abs}[h]\,(3\,h+5\,k-6\,h\,k-2\,k^2+(-5-2\,h-2\,k+4\,h\,k)\,\text{Abs}[k]+4\,k\,\text{Conjugate}[k]))\,\text{If}\Big[\text{Re}[h+k]>1,\ \frac{R^{-1+\text{Abs}[h]+\text{Abs}[k]}}{-1+\text{Abs}[h]+\text{Abs}[k]},\ \text{Integrate}[r^{-2+\text{Abs}[h]+\text{Abs}[k]},\ \{r,0,R\},\ \text{Assumptions}\to\text{Re}[h+k]\le 1]\Big]\,\text{Sin}[(h-k)\,\pi]\Big)$$

```
Simplify[%, {h, k} ∈ Integers]
```

0

```
prodscalH2[z[k], cz[h]]
```

$$\frac{1}{2\,(h-k)}\Big((9+4\,h-5\,h^2+4\,k+6\,h\,k-4\,h^2\,k-5\,k^2-4\,h\,k^2+4\,h^2\,k^2+ 3\,h\,\text{Conjugate}[h]+2\,\text{Abs}[k]\,(6+h-2\,h^2-k+2\,h\,k+4\,h\,\text{Conjugate}[h])+ 3\,k\,\text{Conjugate}[k]+4\,h\,k\,\text{Conjugate}[h]\,\text{Conjugate}[k]+ 2\,\text{Abs}[h]\,(6-h+k+2\,h\,k-2\,k^2+(11-2\,h-2\,k+4\,h\,k)\,\text{Abs}[k]+4\,k\,\text{Conjugate}[k]))\,\text{If}\Big[\text{Re}[h+k]>-1,\ \frac{R^{1+\text{Abs}[h]+\text{Abs}[k]}}{1+\text{Abs}[h]+\text{Abs}[k]},\ \text{Integrate}[r^{\text{Abs}[h]+\text{Abs}[k]},\ \{r,0,R\},\ \text{Assumptions}\to\text{Re}[h+k]\le -1]\Big]\,\text{Sin}[(h-k)\,\pi]\Big)$$

```
Simplify[%, {h, k} ∈ Integers]
```

```
0
```

REAL BASIS : H^2 complete set for V (redundant in L^2) : { $\{f1_k\}$, $\{f2_k\}$, $\{f3_k\}$, $\{f4_k\}$,} $k \in \mathbb{Z}$
(indexed by k here, parametrized by h in the paper)

and scalar products $(.,.)_\rho$ in H^2 $(B_\rho \setminus \Gamma)$

```
ClearAll
```

```
ClearAll
```

```
dx[u_] := Cos[t] * D[u, r] - Sin[t] * D[u, t] / r
dy[u_] := Sin[t] * D[u, r] + Cos[t] * D[u, t] / r
dxx[u_] := dx[dx[u]]
dyy[u_] := dy[dy[u]]
dxy[u_] := dx[dy[u]]
dyx[u_] := dx[dy[u]]
lap[u_] := dxx[u] + dyy[u]
hes2[u_] := dxx[u] ^2 + dyy[u] ^2 + 2 * dxy[u] ^2
prodscalH2[u_, v_] := Integrate[(Simplify[dxx[u]] * Simplify[dxx[v]] +
     Simplify[dyy[u]] * Simplify[dyy[v]] + 2 Simplify[dxy[u]] * Simplify[dxy[v]]) * r,
  {r, 0, R}, {t, -Pi, Pi}]
```

- **$f1_k$, $f2_k$, $f3_k$, $f4_k$ (L^2) Redundant complete set (parameter h in the paper)**

- **$f1_k$, $f2_k$, $f3_k$, $f4_k$ (H^2) Minimal complete set (parameter h in the paper)**

```
f1[k_] := r^(k + 3 / 2) Cos[(k + 3 / 2) t]
```

```
f2[k_] := r^(k + 3 / 2) Sin[(k + 3 / 2) t]
```

```
f3[k_] := r^(k + 3 / 2) Cos[(k - 1 / 2) t]
```

```
f4[k_] := r^(k + 3 / 2) Sin[(k - 1 / 2) t]
```

```
hes11[u_] := dxx[u]
```

```
hes22[u_] := dyy[u]
```

```
hes12[u_] := dxy[u]
```

```
General::spell1 : Possible spelling error: new symbol name "hes12" is similar to existing symbol "hes2".
```

```
hes21[u_] := dyx[u]
```

```
General::spell1 : Possible spelling error: new symbol name "hes21" is similar to existing symbol "hes12".
```

(10.35) HESSIAN OF FUNCTIONS OF TYPE f OF FIRST KIND ($f1_k$)

hes11[f1[k]]

$$-\frac{1}{r}\left(\text{Sin}[t]\left(-\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\text{Cos}\left[\left(\frac{3}{2}+k\right)t\right]\text{Sin}[t]-\left(-\frac{3}{2}-k\right)\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\text{Cos}\left[\left(\frac{3}{2}+k\right)t\right]\text{Sin}[t]-\left(-\frac{3}{2}-k\right)r^{\frac{1}{2}+k}\text{Cos}[t]\,\text{Sin}\left[\left(\frac{3}{2}+k\right)t\right]+\left(-\frac{3}{2}-k\right)\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\text{Cos}[t]\,\text{Sin}\left[\left(\frac{3}{2}+k\right)t\right]\right)+\text{Cos}[t]\left(\left(\frac{1}{2}+k\right)\left(\frac{3}{2}+k\right)r^{-\frac{1}{2}+k}\text{Cos}[t]\,\text{Cos}\left[\left(\frac{3}{2}+k\right)t\right]-\left(-\frac{3}{2}-k\right)\left(\frac{1}{2}+k\right)r^{-\frac{1}{2}+k}\text{Sin}[t]\,\text{Sin}\left[\left(\frac{3}{2}+k\right)t\right]\right)$$

Simplify[%]

$$\frac{1}{4}\left(3+8k+4k^2\right)r^{-\frac{1}{2}+k}\text{Cos}\left[\frac{1}{2}(t-2kt)\right]$$

hes22[f1[k]]

$$\text{Sin}[t]\left(\left(\frac{1}{2}+k\right)\left(\frac{3}{2}+k\right)r^{-\frac{1}{2}+k}\text{Cos}\left[\left(\frac{3}{2}+k\right)t\right]\text{Sin}[t]+\left(-\frac{3}{2}-k\right)\left(\frac{1}{2}+k\right)r^{-\frac{1}{2}+k}\text{Cos}[t]\,\text{Sin}\left[\left(\frac{3}{2}+k\right)t\right]\right)+\frac{1}{r}\left(\text{Cos}[t]\left(\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\text{Cos}[t]\,\text{Cos}\left[\left(\frac{3}{2}+k\right)t\right]+\left(-\frac{3}{2}-k\right)\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\text{Cos}[t]\,\text{Cos}\left[\left(\frac{3}{2}+k\right)t\right]-\left(-\frac{3}{2}-k\right)r^{\frac{1}{2}+k}\text{Sin}[t]\,\text{Sin}\left[\left(\frac{3}{2}+k\right)t\right]+\left(-\frac{3}{2}-k\right)\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\text{Sin}[t]\,\text{Sin}\left[\left(\frac{3}{2}+k\right)t\right]\right)\right)$$

Simplify[%]

$$-\frac{1}{4}\left(3+8k+4k^2\right)r^{-\frac{1}{2}+k}\text{Cos}\left[\frac{1}{2}(t-2kt)\right]$$

hes12[f1[k]]

$$\text{Cos}[t]\left(\left(\frac{1}{2}+k\right)\left(\frac{3}{2}+k\right)r^{-\frac{1}{2}+k}\text{Cos}\left[\left(\frac{3}{2}+k\right)t\right]\text{Sin}[t]+\left(-\frac{3}{2}-k\right)\left(\frac{1}{2}+k\right)r^{-\frac{1}{2}+k}\text{Cos}[t]\,\text{Sin}\left[\left(\frac{3}{2}+k\right)t\right]\right)-\frac{1}{r}\left(\text{Sin}[t]\left(\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\text{Cos}[t]\,\text{Cos}\left[\left(\frac{3}{2}+k\right)t\right]+\left(-\frac{3}{2}-k\right)\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\text{Cos}[t]\,\text{Cos}\left[\left(\frac{3}{2}+k\right)t\right]-\left(-\frac{3}{2}-k\right)r^{\frac{1}{2}+k}\text{Sin}[t]\,\text{Sin}\left[\left(\frac{3}{2}+k\right)t\right]+\left(-\frac{3}{2}-k\right)\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\text{Sin}[t]\,\text{Sin}\left[\left(\frac{3}{2}+k\right)t\right]\right)\right)$$

Simplify[%]

$$\frac{1}{4}\left(3+8k+4k^2\right)r^{-\frac{1}{2}+k}\text{Sin}\left[\frac{1}{2}(t-2kt)\right]$$

hes21[f1[k]]

$$\text{Cos}[t]\left(\left(\frac{1}{2}+k\right)\left(\frac{3}{2}+k\right)r^{-\frac{1}{2}+k}\text{Cos}\left[\left(\frac{3}{2}+k\right)t\right]\text{Sin}[t]+\left(-\frac{3}{2}-k\right)\left(\frac{1}{2}+k\right)r^{-\frac{1}{2}+k}\text{Cos}[t]\,\text{Sin}\left[\left(\frac{3}{2}+k\right)t\right]\right)-\frac{1}{r}\left(\text{Sin}[t]\left(\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\text{Cos}[t]\,\text{Cos}\left[\left(\frac{3}{2}+k\right)t\right]+\left(-\frac{3}{2}-k\right)\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\text{Cos}[t]\,\text{Cos}\left[\left(\frac{3}{2}+k\right)t\right]-\left(-\frac{3}{2}-k\right)r^{\frac{1}{2}+k}\text{Sin}[t]\,\text{Sin}\left[\left(\frac{3}{2}+k\right)t\right]+\left(-\frac{3}{2}-k\right)\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\text{Sin}[t]\,\text{Sin}\left[\left(\frac{3}{2}+k\right)t\right]\right)\right)$$

Simplify[%]

$$\frac{1}{4}\,(3+8\,k+4\,k^2)\,r^{-\frac{1}{2}+k}\,\mathrm{Sin}\left[\frac{1}{2}\,(t-2\,k\,t)\right]$$

(10.36) HESSIAN OF FUNCTIONS OF TYPE f OF SECOND KIND ($f2_k$)

hes11[f2[k]]

$$\mathrm{Cos}[t]\left(-\left(\frac{1}{2}+k\right)\left(\frac{3}{2}+k\right)r^{-\frac{1}{2}+k}\,\mathrm{Cos}\left[\left(\frac{3}{2}+k\right)t\right]\mathrm{Sin}[t]+\left(\frac{1}{2}+k\right)\left(\frac{3}{2}+k\right)r^{-\frac{1}{2}+k}\,\mathrm{Cos}[t]\,\mathrm{Sin}\left[\left(\frac{3}{2}+k\right)t\right]\right)-\frac{1}{r}\left(\mathrm{Sin}[t]\left(-\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\,\mathrm{Cos}[t]\,\mathrm{Cos}\left[\left(\frac{3}{2}+k\right)t\right]+\left(\frac{3}{2}+k\right)^2 r^{\frac{1}{2}+k}\,\mathrm{Cos}[t]\,\mathrm{Cos}\left[\left(\frac{3}{2}+k\right)t\right]-\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\,\mathrm{Sin}[t]\,\mathrm{Sin}\left[\left(\frac{3}{2}+k\right)t\right]-\left(-\frac{3}{2}-k\right)\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\,\mathrm{Sin}[t]\,\mathrm{Sin}\left[\left(\frac{3}{2}+k\right)t\right]\right)\right)$$

Simplify[%]

$$-\frac{1}{4}\,(3+8\,k+4\,k^2)\,r^{-\frac{1}{2}+k}\,\mathrm{Sin}\left[\frac{1}{2}\,(t-2\,k\,t)\right]$$

hes22[f2[k]]

$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(-\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\,\mathrm{Cos}\left[\left(\frac{3}{2}+k\right)t\right]\mathrm{Sin}[t]+\left(\frac{3}{2}+k\right)^2 r^{\frac{1}{2}+k}\,\mathrm{Cos}\left[\left(\frac{3}{2}+k\right)t\right]\mathrm{Sin}[t]+\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\,\mathrm{Cos}[t]\,\mathrm{Sin}\left[\left(\frac{3}{2}+k\right)t\right]+\left(-\frac{3}{2}-k\right)\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\,\mathrm{Cos}[t]\,\mathrm{Sin}\left[\left(\frac{3}{2}+k\right)t\right]\right)\right)+\mathrm{Sin}[t]\left(\left(\frac{1}{2}+k\right)\left(\frac{3}{2}+k\right)r^{-\frac{1}{2}+k}\,\mathrm{Cos}[t]\,\mathrm{Cos}\left[\left(\frac{3}{2}+k\right)t\right]+\left(\frac{1}{2}+k\right)\left(\frac{3}{2}+k\right)r^{-\frac{1}{2}+k}\,\mathrm{Sin}[t]\,\mathrm{Sin}\left[\left(\frac{3}{2}+k\right)t\right]\right)$$

Simplify[%]

$$\frac{1}{4}\,(3+8\,k+4\,k^2)\,r^{-\frac{1}{2}+k}\,\mathrm{Sin}\left[\frac{1}{2}\,(t-2\,k\,t)\right]$$

hes12[f2[k]]

$$-\frac{1}{r}\left(\mathrm{Sin}[t]\left(-\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\,\mathrm{Cos}\left[\left(\frac{3}{2}+k\right)t\right]\mathrm{Sin}[t]+\left(\frac{3}{2}+k\right)^2 r^{\frac{1}{2}+k}\,\mathrm{Cos}\left[\left(\frac{3}{2}+k\right)t\right]\mathrm{Sin}[t]+\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\,\mathrm{Cos}[t]\,\mathrm{Sin}\left[\left(\frac{3}{2}+k\right)t\right]+\left(-\frac{3}{2}-k\right)\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\,\mathrm{Cos}[t]\,\mathrm{Sin}\left[\left(\frac{3}{2}+k\right)t\right]\right)\right)+\mathrm{Cos}[t]\left(\left(\frac{1}{2}+k\right)\left(\frac{3}{2}+k\right)r^{-\frac{1}{2}+k}\,\mathrm{Cos}[t]\,\mathrm{Cos}\left[\left(\frac{3}{2}+k\right)t\right]+\left(\frac{1}{2}+k\right)\left(\frac{3}{2}+k\right)r^{-\frac{1}{2}+k}\,\mathrm{Sin}[t]\,\mathrm{Sin}\left[\left(\frac{3}{2}+k\right)t\right]\right)$$

Simplify[%]

$$\frac{1}{4}\,(3+8\,k+4\,k^2)\,r^{-\frac{1}{2}+k}\,\mathrm{Cos}\left[\frac{1}{2}\,(t-2\,k\,t)\right]$$

hes21[f2[k]]

$$-\frac{1}{r}\left(\text{Sin}[t]\left(-\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\text{Cos}\left[\left(\frac{3}{2}+k\right)t\right]\text{Sin}[t]+\left(\frac{3}{2}+k\right)^2 r^{\frac{1}{2}+k}\text{Cos}\left[\left(\frac{3}{2}+k\right)t\right]\text{Sin}[t]+\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\text{Cos}[t]\,\text{Sin}\left[\left(\frac{3}{2}+k\right)t\right]+\left(-\frac{3}{2}-k\right)\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\text{Cos}[t]\,\text{Sin}\left[\left(\frac{3}{2}+k\right)t\right]\right)\right)+\text{Cos}[t]\left(\left(\frac{1}{2}+k\right)\left(\frac{3}{2}+k\right)r^{-\frac{1}{2}+k}\text{Cos}[t]\,\text{Cos}\left[\left(\frac{3}{2}+k\right)t\right]+\left(\frac{1}{2}+k\right)\left(\frac{3}{2}+k\right)r^{-\frac{1}{2}+k}\text{Sin}[t]\,\text{Sin}\left[\left(\frac{3}{2}+k\right)t\right]\right)$$

Simplify[%]

$$\frac{1}{4}\left(3+8k+4k^2\right)r^{-\frac{1}{2}+k}\text{Cos}\left[\frac{1}{2}(t-2kt)\right]$$

(10.37) HESSIAN OF FUNCTIONS OF TYPE f OF THIRD KIND ($f3_k$)

hes11[f3[k]]

$$-\frac{1}{r}\left(\text{Sin}[t]\left(-\left(\frac{1}{2}-k\right)\left(-\frac{1}{2}+k\right)r^{\frac{1}{2}+k}\text{Cos}\left[\left(-\frac{1}{2}+k\right)t\right]\text{Sin}[t]-\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\text{Cos}\left[\left(-\frac{1}{2}+k\right)t\right]\text{Sin}[t]-\left(\frac{1}{2}-k\right)r^{\frac{1}{2}+k}\text{Cos}[t]\,\text{Sin}\left[\left(-\frac{1}{2}+k\right)t\right]+\left(\frac{1}{2}-k\right)\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\text{Cos}[t]\,\text{Sin}\left[\left(-\frac{1}{2}+k\right)t\right]\right)\right)+\text{Cos}[t]\left(\left(\frac{1}{2}+k\right)\left(\frac{3}{2}+k\right)r^{-\frac{1}{2}+k}\text{Cos}[t]\,\text{Cos}\left[\left(-\frac{1}{2}+k\right)t\right]-\left(\frac{1}{2}-k\right)\left(\frac{1}{2}+k\right)r^{-\frac{1}{2}+k}\text{Sin}[t]\,\text{Sin}\left[\left(-\frac{1}{2}+k\right)t\right]\right)$$

Simplify[%]

$$\frac{1}{4}(1+2k)r^{-\frac{1}{2}+k}\left((-1+2k)\text{Cos}\left[\left(\frac{5}{2}-k\right)t\right]+4\,\text{Cos}\left[\left(-\frac{1}{2}+k\right)t\right]\right)$$

hes22[f3[k]]

$$\text{Sin}[t]\left(\left(\frac{1}{2}+k\right)\left(\frac{3}{2}+k\right)r^{-\frac{1}{2}+k}\text{Cos}\left[\left(-\frac{1}{2}+k\right)t\right]\text{Sin}[t]+\left(\frac{1}{2}-k\right)\left(\frac{1}{2}+k\right)r^{-\frac{1}{2}+k}\text{Cos}[t]\,\text{Sin}\left[\left(-\frac{1}{2}+k\right)t\right]\right)+\frac{1}{r}\left(\text{Cos}[t]\left(\left(\frac{1}{2}-k\right)\left(-\frac{1}{2}+k\right)r^{\frac{1}{2}+k}\text{Cos}[t]\,\text{Cos}\left[\left(-\frac{1}{2}+k\right)t\right]+\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\text{Cos}[t]\,\text{Cos}\left[\left(-\frac{1}{2}+k\right)t\right]-\left(\frac{1}{2}-k\right)r^{\frac{1}{2}+k}\text{Sin}[t]\,\text{Sin}\left[\left(-\frac{1}{2}+k\right)t\right]+\left(\frac{1}{2}-k\right)\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\text{Sin}[t]\,\text{Sin}\left[\left(-\frac{1}{2}+k\right)t\right]\right)\right)$$

Simplify[%]

$$-\frac{1}{4}(1+2k)r^{-\frac{1}{2}+k}\left((-1+2k)\text{Cos}\left[\left(\frac{5}{2}-k\right)t\right]-4\,\text{Cos}\left[\left(-\frac{1}{2}+k\right)t\right]\right)$$

hes12[f3[k]]

$$\text{Cos}[t]\left(\left(\frac{1}{2}+k\right)\left(\frac{3}{2}+k\right)r^{-\frac{1}{2}+k}\text{Cos}\left[\left(-\frac{1}{2}+k\right)t\right]\text{Sin}[t]+\left(\frac{1}{2}-k\right)\left(\frac{1}{2}+k\right)r^{-\frac{1}{2}+k}\text{Cos}[t]\,\text{Sin}\left[\left(-\frac{1}{2}+k\right)t\right]\right)-\frac{1}{r}\left(\text{Sin}[t]\left(\left(\frac{1}{2}-k\right)\left(-\frac{1}{2}+k\right)r^{\frac{1}{2}+k}\text{Cos}[t]\,\text{Cos}\left[\left(-\frac{1}{2}+k\right)t\right]+\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\text{Cos}[t]\,\text{Cos}\left[\left(-\frac{1}{2}+k\right)t\right]-\left(\frac{1}{2}-k\right)r^{\frac{1}{2}+k}\text{Sin}[t]\,\text{Sin}\left[\left(-\frac{1}{2}+k\right)t\right]+\left(\frac{1}{2}-k\right)\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\text{Sin}[t]\,\text{Sin}\left[\left(-\frac{1}{2}+k\right)t\right]\right)\right)$$

Simplify[%]

$$\frac{1}{4}\,(-1+2\,k)\,(1+2\,k)\,r^{-\frac{1}{2}+k}\,\mathrm{Sin}\left[\left(\frac{5}{2}-k\right)t\right]$$

hes21[f3[k]]

$$\begin{aligned}&\mathrm{Cos}[t]\,\Big(\left(\frac{1}{2}+k\right)\left(\frac{3}{2}+k\right)r^{-\frac{1}{2}+k}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+k\right)t\right]\mathrm{Sin}[t]+\\&\quad\left(\frac{1}{2}-k\right)\left(\frac{1}{2}+k\right)r^{-\frac{1}{2}+k}\,\mathrm{Cos}[t]\,\mathrm{Sin}\left[\left(-\frac{1}{2}+k\right)t\right]\Big)-\frac{1}{r}\,\Big(\mathrm{Sin}[t]\\&\quad\Big(\left(\frac{1}{2}-k\right)\left(-\frac{1}{2}+k\right)r^{\frac{1}{2}+k}\,\mathrm{Cos}[t]\,\mathrm{Cos}\left[\left(-\frac{1}{2}+k\right)t\right]+\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\,\mathrm{Cos}[t]\,\mathrm{Cos}\left[\left(-\frac{1}{2}+k\right)t\right]-\\&\qquad\left(\frac{1}{2}-k\right)r^{\frac{1}{2}+k}\,\mathrm{Sin}[t]\,\mathrm{Sin}\left[\left(-\frac{1}{2}+k\right)t\right]+\left(\frac{1}{2}-k\right)\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\,\mathrm{Sin}[t]\,\mathrm{Sin}\left[\left(-\frac{1}{2}+k\right)t\right]\Big)\Big)\end{aligned}$$

Simplify[%]

$$\frac{1}{4}\,(-1+2\,k)\,(1+2\,k)\,r^{-\frac{1}{2}+k}\,\mathrm{Sin}\left[\left(\frac{5}{2}-k\right)t\right]$$

(10.38) HESSIAN OF FUNCTIONS OF TYPE f OF FOURTH KIND ($f4_k$)

hes11[f4[k]]

$$\begin{aligned}&\mathrm{Cos}[t]\,\Big(-\left(-\frac{1}{2}+k\right)\left(\frac{1}{2}+k\right)r^{-\frac{1}{2}+k}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+k\right)t\right]\mathrm{Sin}[t]+\\&\quad\left(\frac{1}{2}+k\right)\left(\frac{3}{2}+k\right)r^{-\frac{1}{2}+k}\,\mathrm{Cos}[t]\,\mathrm{Sin}\left[\left(-\frac{1}{2}+k\right)t\right]\Big)-\frac{1}{r}\,\Big(\mathrm{Sin}[t]\\&\quad\Big(-\left(-\frac{1}{2}+k\right)r^{\frac{1}{2}+k}\,\mathrm{Cos}[t]\,\mathrm{Cos}\left[\left(-\frac{1}{2}+k\right)t\right]+\left(-\frac{1}{2}+k\right)\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\,\mathrm{Cos}[t]\,\mathrm{Cos}\left[\left(-\frac{1}{2}+k\right)t\right]-\\&\qquad\left(\frac{1}{2}-k\right)\left(-\frac{1}{2}+k\right)r^{\frac{1}{2}+k}\,\mathrm{Sin}[t]\,\mathrm{Sin}\left[\left(-\frac{1}{2}+k\right)t\right]-\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\,\mathrm{Sin}[t]\,\mathrm{Sin}\left[\left(-\frac{1}{2}+k\right)t\right]\Big)\Big)\end{aligned}$$

Simplify[%]

$$\frac{1}{4}\,(1+2\,k)\,r^{-\frac{1}{2}+k}\,\Big((1-2\,k)\,\mathrm{Sin}\left[\left(\frac{5}{2}-k\right)t\right]+4\,\mathrm{Sin}\left[\left(-\frac{1}{2}+k\right)t\right]\Big)$$

hes22[f4[k]]

$$\begin{aligned}&\frac{1}{r}\,\Big(\mathrm{Cos}[t]\\&\quad\Big(-\left(-\frac{1}{2}+k\right)r^{\frac{1}{2}+k}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+k\right)t\right]\mathrm{Sin}[t]+\left(-\frac{1}{2}+k\right)\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+k\right)t\right]\mathrm{Sin}[t]+\\&\qquad\left(\frac{1}{2}-k\right)\left(-\frac{1}{2}+k\right)r^{\frac{1}{2}+k}\,\mathrm{Cos}[t]\,\mathrm{Sin}\left[\left(-\frac{1}{2}+k\right)t\right]+\\&\qquad\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\,\mathrm{Cos}[t]\,\mathrm{Sin}\left[\left(-\frac{1}{2}+k\right)t\right]\Big)\Big)+\\&\mathrm{Sin}[t]\,\Big(\left(-\frac{1}{2}+k\right)\left(\frac{1}{2}+k\right)r^{-\frac{1}{2}+k}\,\mathrm{Cos}[t]\,\mathrm{Cos}\left[\left(-\frac{1}{2}+k\right)t\right]+\\&\quad\left(\frac{1}{2}+k\right)\left(\frac{3}{2}+k\right)r^{-\frac{1}{2}+k}\,\mathrm{Sin}[t]\,\mathrm{Sin}\left[\left(-\frac{1}{2}+k\right)t\right]\Big)\end{aligned}$$

Simplify[%]

$$\frac{1}{4}\,(1+2\,k)\,r^{-\frac{1}{2}+k}\,\Big((-1+2\,k)\,\mathrm{Sin}\left[\left(\frac{5}{2}-k\right)t\right]+4\,\mathrm{Sin}\left[\left(-\frac{1}{2}+k\right)t\right]\Big)$$

```
hes12[f4[k]]
```

$$-\frac{1}{r}\left(\text{Sin}[t]\left(-\left(-\frac{1}{2}+k\right) r^{\frac{1}{2}+k}\,\text{Cos}\left[\left(-\frac{1}{2}+k\right) t\right]\text{Sin}[t]+\left(-\frac{1}{2}+k\right)\left(\frac{3}{2}+k\right) r^{\frac{1}{2}+k}\,\text{Cos}\left[\left(-\frac{1}{2}+k\right) t\right]\text{Sin}[t]+\left(\frac{1}{2}-k\right)\left(-\frac{1}{2}+k\right) r^{\frac{1}{2}+k}\,\text{Cos}[t]\,\text{Sin}\left[\left(-\frac{1}{2}+k\right) t\right]+\left(\frac{3}{2}+k\right) r^{\frac{1}{2}+k}\,\text{Cos}[t]\,\text{Sin}\left[\left(-\frac{1}{2}+k\right) t\right]\right)\right)+\text{Cos}[t]\left(\left(-\frac{1}{2}+k\right)\left(\frac{1}{2}+k\right) r^{-\frac{1}{2}+k}\,\text{Cos}[t]\,\text{Cos}\left[\left(-\frac{1}{2}+k\right) t\right]+\left(\frac{1}{2}+k\right)\left(\frac{3}{2}+k\right) r^{-\frac{1}{2}+k}\,\text{Sin}[t]\,\text{Sin}\left[\left(-\frac{1}{2}+k\right) t\right]\right)$$

```
Simplify[%]
```

$$\frac{1}{4}(-1+2k)(1+2k)\, r^{-\frac{1}{2}+k}\,\text{Cos}\left[\left(\frac{5}{2}-k\right) t\right]$$

```
hes21[f4[k]]
```

$$-\frac{1}{r}\left(\text{Sin}[t]\left(-\left(-\frac{1}{2}+k\right) r^{\frac{1}{2}+k}\,\text{Cos}\left[\left(-\frac{1}{2}+k\right) t\right]\text{Sin}[t]+\left(-\frac{1}{2}+k\right)\left(\frac{3}{2}+k\right) r^{\frac{1}{2}+k}\,\text{Cos}\left[\left(-\frac{1}{2}+k\right) t\right]\text{Sin}[t]+\left(\frac{1}{2}-k\right)\left(-\frac{1}{2}+k\right) r^{\frac{1}{2}+k}\,\text{Cos}[t]\,\text{Sin}\left[\left(-\frac{1}{2}+k\right) t\right]+\left(\frac{3}{2}+k\right) r^{\frac{1}{2}+k}\,\text{Cos}[t]\,\text{Sin}\left[\left(-\frac{1}{2}+k\right) t\right]\right)\right)+\text{Cos}[t]\left(\left(-\frac{1}{2}+k\right)\left(\frac{1}{2}+k\right) r^{-\frac{1}{2}+k}\,\text{Cos}[t]\,\text{Cos}\left[\left(-\frac{1}{2}+k\right) t\right]+\left(\frac{1}{2}+k\right)\left(\frac{3}{2}+k\right) r^{-\frac{1}{2}+k}\,\text{Sin}[t]\,\text{Sin}\left[\left(-\frac{1}{2}+k\right) t\right]\right)$$

```
Simplify[%]
```

$$\frac{1}{4}(-1+2k)(1+2k)\, r^{-\frac{1}{2}+k}\,\text{Cos}\left[\left(\frac{5}{2}-k\right) t\right]$$

```
lap[lap[f1]]
```

0

```
lap[lap[f2]]
```

0

```
lap[lap[f3]]
```

0

```
lap[lap[f4]]
```

0

(10.39) COMPUTATION OF SCALAR PRODUCTS IN H^2 FOR $\{\{f1_k\}, \{f2_k\}, \{f3_k\}, \{f4_k\},\}$ $k \in \mathbb{Z}$

```
prodscalH2[f1[k], f1[k]]
```

$$\frac{1}{4}(1+2k)(3+2k)^2\,\pi\, R^{1+2k}$$

TeXForm[%]

```
\frac{\left( 1 + 2\,k \right) \,{\left( 3 + 2\,k \right) }^2\,\pi \,R^{1 +
2\,k}}{4}
```

prodscalH2[f1[k], f2[k]]

0

prodscalH2[f1[k], f4[k]]

0

prodscalH2[f1[k], f3[k]]

0

prodscalH2[f2[k], f4[k]]

0

prodscalH2[f2[k], f3[k]]

0

prodscalH2[f2[k], f2[k]]

$$\frac{1}{4}\,(1+2\,k)\,(3+2\,k)^2\,\pi\,R^{1+2\,k}$$

TeXForm[$\frac{1}{4}\,(1+2\,k)\,(3+2\,k)^2\,\pi\,R^{1+2\,k}$]

```
\frac{\left( 1 + 2\,k \right) \,{\left( 3 + 2\,k \right) }^2\,\pi \,R^{1 +
2\,k}}{4}
```

prodscalH2[f3[k], f3[k]]

$$((1+2\,k)\,R^{1+2\,k}\,(-81\,\pi+234\,k\,\pi-232\,k^2\,\pi+208\,k^3\,\pi-80\,k^4\,\pi+32\,k^5\,\pi+72\,\pi\,\mathrm{Cos}[2\,k\,\pi]-176\,k\,\pi\,\mathrm{Cos}[2\,k\,\pi]+96\,k^2\,\pi\,\mathrm{Cos}[2\,k\,\pi]-64\,k^3\,\pi\,\mathrm{Cos}[2\,k\,\pi]-72\,\mathrm{Sin}[2\,k\,\pi]+32\,k\,\mathrm{Sin}[2\,k\,\pi]-32\,k^2\,\mathrm{Sin}[2\,k\,\pi]+32\,\mathrm{Sin}[4\,k\,\pi]))\,/\,(4\,(-1+2\,k)\,(9-4\,k+4\,k^2-8\,\mathrm{Cos}[2\,k\,\pi]))$$

Simplify[%]

$$\frac{(1+2\,k)\,R^{1+2\,k}\,((-9+22\,k-12\,k^2+8\,k^3)\,\pi-8\,\mathrm{Sin}[2\,k\,\pi])}{-4+8\,k}$$

TeXForm[$\frac{(1+2\,k)\,R^{1+2\,k}\,((-9+22\,k-12\,k^2+8\,k^3)\,\pi-8\,\mathrm{Sin}[2\,k\,\pi])}{-4+8\,k}$]

```
\frac{\left( 1 + 2\,k \right) \,R^{1 + 2\,k}\,\left( \left( -9 + 22\,k - 12\,k^2 +
8\,k^3 \right) \,\pi  -
      8\,\sin (2\,k\,\pi ) \right) }{-4 + 8\,k}
```

prodscalH2[f4[k], f4[k]]

$$((1+2\,k)\,R^{1+2\,k}\,(-81\,\pi+234\,k\,\pi-232\,k^2\,\pi+208\,k^3\,\pi-80\,k^4\,\pi+32\,k^5\,\pi-72\,\pi\,\mathrm{Cos}[2\,k\,\pi]+176\,k\,\pi\,\mathrm{Cos}[2\,k\,\pi]-96\,k^2\,\pi\,\mathrm{Cos}[2\,k\,\pi]+64\,k^3\,\pi\,\mathrm{Cos}[2\,k\,\pi]+72\,\mathrm{Sin}[2\,k\,\pi]-32\,k\,\mathrm{Sin}[2\,k\,\pi]+32\,k^2\,\mathrm{Sin}[2\,k\,\pi]+32\,\mathrm{Sin}[4\,k\,\pi]))\,/\,(4\,(-1+2\,k)\,(9-4\,k+4\,k^2+8\,\mathrm{Cos}[2\,k\,\pi]))$$

Simplify[%]

$$\frac{(1+2k)\,R^{1+2k}\,((-9+22k-12k^2+8k^3)\,\pi+8\,\mathrm{Sin}[2k\pi])}{-4+8k}$$

TeXForm[$\frac{(1+2k)\,R^{1+2k}\,((-9+22k-12k^2+8k^3)\,\pi+8\,\mathrm{Sin}[2k\pi])}{-4+8k}$ **]**

```
\frac{\left( 1 + 2\,k \right) \,R^{1 + 2\,k}\,\left( \left( -9 + 22\,k - 12\,k^2 +
8\,k^3 \right) \,\pi  +
      8\,\sin (2\,k\,\pi ) \right) }{-4 + 8\,k}
```

Factor[-9 + 22 k - 12 k^2 + 8 k^3]

$$(-1+2k)\,(9-4k+4k^2)$$

PAY ATTENTION :
from now non h labels a generic index different from k (not the label of f1, f2, , ...)
Sin (h - k) Pi always stans for 0 since
h and k are integers.

prodscalH2[f1[k], f1[h]]

$$\frac{(3+8h+4h^2)\,(3+8k+4k^2)\,R^{1+h+k}\,\mathrm{Sin}[(h-k)\,\pi]}{4\,(h+h^2-k\,(1+k))}$$

Simplify[%]

$$\frac{(3+8h+4h^2)\,(3+8k+4k^2)\,R^{1+h+k}\,\mathrm{Sin}[(h-k)\,\pi]}{4\,(h+h^2-k\,(1+k))}$$

prodscalH2[f2[k], f2[h]]

$$\frac{(3+8h+4h^2)\,(3+8k+4k^2)\,R^{1+h+k}\,\mathrm{Sin}[(h-k)\,\pi]}{4\,(h+h^2-k\,(1+k))}$$

Simplify[%]

$$\frac{(3+8h+4h^2)\,(3+8k+4k^2)\,R^{1+h+k}\,\mathrm{Sin}[(h-k)\,\pi]}{4\,(h+h^2-k\,(1+k))}$$

prodscalH2[f3[k], f3[h]]

$$\frac{1}{4\,(h-k)\,(-1+h+k)\,(1+h+k)}\Big((1+2h)\,(1+2k)\,R^{1+h+k}\,\Big(-8\,\mathrm{Cos}\Big[\frac{1}{2}(-1+2k)\,\pi\Big]\,\mathrm{Sin}\Big[\frac{1}{2}(-1+2h)\,\pi\Big]+16\,h\,\mathrm{Cos}\Big[\frac{1}{2}(-1+2k)\,\pi\Big]\,\mathrm{Sin}\Big[\frac{1}{2}(-1+2h)\,\pi\Big]+8\,\mathrm{Cos}\Big[\frac{1}{2}(-1+2h)\,\pi\Big]\,\mathrm{Sin}\Big[\frac{1}{2}(-1+2k)\,\pi\Big]-16\,k\,\mathrm{Cos}\Big[\frac{1}{2}(-1+2h)\,\pi\Big]\,\mathrm{Sin}\Big[\frac{1}{2}(-1+2k)\,\pi\Big]-\mathrm{Sin}\Big[\frac{1}{2}(-5+2h)\,\pi-\frac{1}{2}(-5+2k)\,\pi\Big]+3\,h\,\mathrm{Sin}\Big[\frac{1}{2}(-5+2h)\,\pi-\frac{1}{2}(-5+2k)\,\pi\Big]-2\,h^2\,\mathrm{Sin}\Big[\frac{1}{2}(-5+2h)\,\pi-\frac{1}{2}(-5+2k)\,\pi\Big]+3\,k\,\mathrm{Sin}\Big[\frac{1}{2}(-5+2h)\,\pi-\frac{1}{2}(-5+2k)\,\pi\Big]-8\,h\,k\,\mathrm{Sin}\Big[\frac{1}{2}(-5+2h)\,\pi-\frac{1}{2}(-5+2k)\,\pi\Big]+4\,h^2\,k\,\mathrm{Sin}\Big[\frac{1}{2}(-5+2h)\,\pi-\frac{1}{2}(-5+2k)\,\pi\Big]-2\,k^2\,\mathrm{Sin}\Big[\frac{1}{2}(-5+2h)\,\pi-\frac{1}{2}(-5+2k)\,\pi\Big]+4\,h\,k^2\,\mathrm{Sin}\Big[\frac{1}{2}(-5+2h)\,\pi-\frac{1}{2}(-5+2k)\,\pi\Big]\Big)\Big)$$

Simplify[%]

$$((1+2h)\,(1+2k)\,R^{1+h+k}\,((-9+11k-2k^2+h^2\,(-2+4k)+h\,(11-8k+4k^2))\,\mathrm{Sin}[(h-k)\,\pi]+8\,(-h+k)\,\mathrm{Sin}[(h+k)\,\pi]))\,/\,(4\,(h-k)\,(-1+h+k)\,(1+h+k))$$

```
prodscalH2[f4[k], f4[h]]
```

$$\frac{1}{4\,(h-k)\,(-1+h+k)\,(1+h+k)}\Big((1+2h)\,(1+2k)\,R^{1+h+k}\Big(-8\,\mathrm{Cos}\Big[\frac{1}{2}\,(-1+2k)\,\pi\Big]\,\mathrm{Sin}\Big[\frac{1}{2}\,(-1+2h)\,\pi\Big]+16\,k\,\mathrm{Cos}\Big[\frac{1}{2}\,(-1+2k)\,\pi\Big]\,\mathrm{Sin}\Big[\frac{1}{2}\,(-1+2h)\,\pi\Big]+8\,\mathrm{Cos}\Big[\frac{1}{2}\,(-1+2h)\,\pi\Big]\,\mathrm{Sin}\Big[\frac{1}{2}\,(-1+2k)\,\pi\Big]-16\,h\,\mathrm{Cos}\Big[\frac{1}{2}\,(-1+2h)\,\pi\Big]\,\mathrm{Sin}\Big[\frac{1}{2}\,(-1+2k)\,\pi\Big]-\mathrm{Sin}\Big[\frac{1}{2}\,(-5+2h)\,\pi-\frac{1}{2}\,(-5+2k)\,\pi\Big]+3\,h\,\mathrm{Sin}\Big[\frac{1}{2}\,(-5+2h)\,\pi-\frac{1}{2}\,(-5+2k)\,\pi\Big]-2\,h^2\,\mathrm{Sin}\Big[\frac{1}{2}\,(-5+2h)\,\pi-\frac{1}{2}\,(-5+2k)\,\pi\Big]+3\,k\,\mathrm{Sin}\Big[\frac{1}{2}\,(-5+2h)\,\pi-\frac{1}{2}\,(-5+2k)\,\pi\Big]-8\,h\,k\,\mathrm{Sin}\Big[\frac{1}{2}\,(-5+2h)\,\pi-\frac{1}{2}\,(-5+2k)\,\pi\Big]+4\,h^2\,k\,\mathrm{Sin}\Big[\frac{1}{2}\,(-5+2h)\,\pi-\frac{1}{2}\,(-5+2k)\,\pi\Big]-2\,k^2\,\mathrm{Sin}\Big[\frac{1}{2}\,(-5+2h)\,\pi-\frac{1}{2}\,(-5+2k)\,\pi\Big]+4\,h\,k^2\,\mathrm{Sin}\Big[\frac{1}{2}\,(-5+2h)\,\pi-\frac{1}{2}\,(-5+2k)\,\pi\Big]\Big)\Big)$$

```
Simplify[%]
```

$$((1+2h)\,(1+2k)\,R^{1+h+k}\,((-9+11\,k-2\,k^2+h^2\,(-2+4\,k)+h\,(11-8\,k+4\,k^2))\,\mathrm{Sin}[(h-k)\,\pi]+8\,(h-k)\,\mathrm{Sin}[(h+k)\,\pi]))\,/\,(4\,(h-k)\,(-1+h+k)\,(1+h+k))$$

```
prodscalH2[f1[k], f2[h]]
```

0

```
prodscalH2[f1[k], f3[h]]
```

$$-\frac{(-1+4\,h^2)\,(3+8\,k+4\,k^2)\,R^{1+h+k}\,\mathrm{Sin}[(h-k)\,\pi]}{4\,(2+h-h^2+3\,k+k^2)}$$

```
Simplify[%]
```

$$-\frac{(-1+4\,h^2)\,(3+8\,k+4\,k^2)\,R^{1+h+k}\,\mathrm{Sin}[(h-k)\,\pi]}{4\,(2+h-h^2+3\,k+k^2)}$$

```
prodscalH2[f1[k], f4[h]]
```

0

```
prodscalH2[f2[k], f4[h]]
```

$$-\frac{(-1+4\,h^2)\,(3+8\,k+4\,k^2)\,R^{1+h+k}\,\mathrm{Sin}[(h-k)\,\pi]}{4\,(2+h-h^2+3\,k+k^2)}$$

```
Simplify[%]
```

$$-\frac{(-1+4\,h^2)\,(3+8\,k+4\,k^2)\,R^{1+h+k}\,\mathrm{Sin}[(h-k)\,\pi]}{4\,(2+h-h^2+3\,k+k^2)}$$

```
prodscalH2[f3[k], f4[h]]
```

0

```
(* HESSIANI DELLE fj[k] *)
```

dxx[f1[k]]

$$-\frac{1}{r}\left(\text{Sin}[t]\left(-\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\text{Cos}\left[\left(\frac{3}{2}+k\right)t\right]\text{Sin}[t]-\left(-\frac{3}{2}-k\right)\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\text{Cos}\left[\left(\frac{3}{2}+k\right)t\right]\text{Sin}[t]-\left(-\frac{3}{2}-k\right)r^{\frac{1}{2}+k}\text{Cos}[t]\,\text{Sin}\left[\left(\frac{3}{2}+k\right)t\right]+\left(-\frac{3}{2}-k\right)\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\text{Cos}[t]\,\text{Sin}\left[\left(\frac{3}{2}+k\right)t\right]\right)+\text{Cos}[t]\left(\left(\frac{1}{2}+k\right)\left(\frac{3}{2}+k\right)r^{-\frac{1}{2}+k}\text{Cos}[t]\,\text{Cos}\left[\left(\frac{3}{2}+k\right)t\right]-\left(-\frac{3}{2}-k\right)\left(\frac{1}{2}+k\right)r^{-\frac{1}{2}+k}\text{Sin}[t]\,\text{Sin}\left[\left(\frac{3}{2}+k\right)t\right]\right)$$

Simplify[%]

$$\frac{1}{4}\left(3+8k+4k^2\right)r^{-\frac{1}{2}+k}\text{Cos}\left[\frac{1}{2}(t-2kt)\right]$$

$$\textbf{TeXForm}\left[\frac{1}{4}\left(3+8k+4k^2\right)r^{-\frac{1}{2}+k}\text{Cos}\left[\frac{1}{2}(t-2kt)\right]\right]$$

```
\frac{\left( 3 + 8\,k + 4\,k^2 \right) \,r^{-\left( \frac{1}{2} \right)  +
k}\,\cos (\frac{t - 2\,k\,t}{2})}{4}
```

dxy[f1[k]]

$$\text{Cos}[t]\left(\left(\frac{1}{2}+k\right)\left(\frac{3}{2}+k\right)r^{-\frac{1}{2}+k}\text{Cos}\left[\left(\frac{3}{2}+k\right)t\right]\text{Sin}[t]+\left(-\frac{3}{2}-k\right)\left(\frac{1}{2}+k\right)r^{-\frac{1}{2}+k}\text{Cos}[t]\,\text{Sin}\left[\left(\frac{3}{2}+k\right)t\right]\right)-\frac{1}{r}\left(\text{Sin}[t]\left(\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\text{Cos}[t]\,\text{Cos}\left[\left(\frac{3}{2}+k\right)t\right]+\left(-\frac{3}{2}-k\right)\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\text{Cos}[t]\,\text{Cos}\left[\left(\frac{3}{2}+k\right)t\right]-\left(-\frac{3}{2}-k\right)r^{\frac{1}{2}+k}\text{Sin}[t]\,\text{Sin}\left[\left(\frac{3}{2}+k\right)t\right]+\left(-\frac{3}{2}-k\right)\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\text{Sin}[t]\,\text{Sin}\left[\left(\frac{3}{2}+k\right)t\right]\right)\right)$$

Simplify[%]

$$\frac{1}{4}\left(3+8k+4k^2\right)r^{-\frac{1}{2}+k}\text{Sin}\left[\frac{1}{2}(t-2kt)\right]$$

$$\textbf{TeXForm}\left[\frac{1}{4}\left(3+8k+4k^2\right)r^{-\frac{1}{2}+k}\text{Sin}\left[\frac{1}{2}(t-2kt)\right]\right]$$

```
\frac{\left( 3 + 8\,k + 4\,k^2 \right) \,r^{-\left( \frac{1}{2} \right)  +
k}\,\sin (\frac{t - 2\,k\,t}{2})}{4}
```

dyy[f1[k]]

$$\text{Sin}[t]\left(\left(\frac{1}{2}+k\right)\left(\frac{3}{2}+k\right)r^{-\frac{1}{2}+k}\text{Cos}\left[\left(\frac{3}{2}+k\right)t\right]\text{Sin}[t]+\left(-\frac{3}{2}-k\right)\left(\frac{1}{2}+k\right)r^{-\frac{1}{2}+k}\text{Cos}[t]\,\text{Sin}\left[\left(\frac{3}{2}+k\right)t\right]\right)+\frac{1}{r}\left(\text{Cos}[t]\left(\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\text{Cos}[t]\,\text{Cos}\left[\left(\frac{3}{2}+k\right)t\right]+\left(-\frac{3}{2}-k\right)\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\text{Cos}[t]\,\text{Cos}\left[\left(\frac{3}{2}+k\right)t\right]-\left(-\frac{3}{2}-k\right)r^{\frac{1}{2}+k}\text{Sin}[t]\,\text{Sin}\left[\left(\frac{3}{2}+k\right)t\right]+\left(-\frac{3}{2}-k\right)\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\text{Sin}[t]\,\text{Sin}\left[\left(\frac{3}{2}+k\right)t\right]\right)\right)$$

Simplify[%]

$$-\frac{1}{4}\left(3+8k+4k^2\right)r^{-\frac{1}{2}+k}\text{Cos}\left[\frac{1}{2}(t-2kt)\right]$$

$$\mathbf{TeXForm}\left[-\frac{1}{4}\,(3+8\,k+4\,k^2)\,r^{-\frac{1}{2}+k}\,\mathrm{Cos}\left[\frac{1}{2}\,(t-2\,k\,t)\right]\right]$$

```
\frac{-\left( \left( 3 + 8\,k + 4\,k^2 \right) \,r^{-\left( \frac{1}{2} \right)  +
k}\,\cos (\frac{t - 2\,k\,t}{2}) \right) }{4}
```

dxx[f2[k]]

$$\mathrm{Cos}[t]\left(-\left(\frac{1}{2}+k\right)\left(\frac{3}{2}+k\right)r^{-\frac{1}{2}+k}\,\mathrm{Cos}\left[\left(\frac{3}{2}+k\right)t\right]\mathrm{Sin}[t]+\left(\frac{1}{2}+k\right)\left(\frac{3}{2}+k\right)r^{-\frac{1}{2}+k}\,\mathrm{Cos}[t]\,\mathrm{Sin}\left[\left(\frac{3}{2}+k\right)t\right]\right)-\frac{1}{r}\left(\mathrm{Sin}[t]\left(-\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\,\mathrm{Cos}[t]\,\mathrm{Cos}\left[\left(\frac{3}{2}+k\right)t\right]+\left(\frac{3}{2}+k\right)^2 r^{\frac{1}{2}+k}\,\mathrm{Cos}[t]\,\mathrm{Cos}\left[\left(\frac{3}{2}+k\right)t\right]-\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\,\mathrm{Sin}[t]\,\mathrm{Sin}\left[\left(\frac{3}{2}+k\right)t\right]-\left(-\frac{3}{2}-k\right)\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\,\mathrm{Sin}[t]\,\mathrm{Sin}\left[\left(\frac{3}{2}+k\right)t\right]\right)\right)$$

Simplify[%]

$$-\frac{1}{4}\,(3+8\,k+4\,k^2)\,r^{-\frac{1}{2}+k}\,\mathrm{Sin}\left[\frac{1}{2}\,(t-2\,k\,t)\right]$$

$$\mathbf{TeXForm}\left[-\frac{1}{4}\,(3+8\,k+4\,k^2)\,r^{-\frac{1}{2}+k}\,\mathrm{Sin}\left[\frac{1}{2}\,(t-2\,k\,t)\right]\right]$$

```
\frac{-\left( \left( 3 + 8\,k + 4\,k^2 \right) \,r^{-\left( \frac{1}{2} \right)  +
k}\,\sin (\frac{t - 2\,k\,t}{2}) \right) }{4}
```

dxy[f2[k]]

$$-\frac{1}{r}\left(\mathrm{Sin}[t]\left(-\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\,\mathrm{Cos}\left[\left(\frac{3}{2}+k\right)t\right]\mathrm{Sin}[t]+\left(\frac{3}{2}+k\right)^2 r^{\frac{1}{2}+k}\,\mathrm{Cos}\left[\left(\frac{3}{2}+k\right)t\right]\mathrm{Sin}[t]+\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\,\mathrm{Cos}[t]\,\mathrm{Sin}\left[\left(\frac{3}{2}+k\right)t\right]+\left(-\frac{3}{2}-k\right)\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\,\mathrm{Cos}[t]\,\mathrm{Sin}\left[\left(\frac{3}{2}+k\right)t\right]\right)\right)+\mathrm{Cos}[t]\left(\left(\frac{1}{2}+k\right)\left(\frac{3}{2}+k\right)r^{-\frac{1}{2}+k}\,\mathrm{Cos}[t]\,\mathrm{Cos}\left[\left(\frac{3}{2}+k\right)t\right]+\left(\frac{1}{2}+k\right)\left(\frac{3}{2}+k\right)r^{-\frac{1}{2}+k}\,\mathrm{Sin}[t]\,\mathrm{Sin}\left[\left(\frac{3}{2}+k\right)t\right]\right)$$

Simplify[%]

$$\frac{1}{4}\,(3+8\,k+4\,k^2)\,r^{-\frac{1}{2}+k}\,\mathrm{Cos}\left[\frac{1}{2}\,(t-2\,k\,t)\right]$$

$$\mathbf{TeXForm}\left[\frac{1}{4}\,(3+8\,k+4\,k^2)\,r^{-\frac{1}{2}+k}\,\mathrm{Cos}\left[\frac{1}{2}\,(t-2\,k\,t)\right]\right]$$

```
\frac{\left( 3 + 8\,k + 4\,k^2 \right) \,r^{-\left( \frac{1}{2} \right)  +
k}\,\cos (\frac{t - 2\,k\,t}{2})}{4}
```

dyy[f2[k]]

$$\frac{1}{r}\left(\mathrm{Cos}[t]\left(-\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\,\mathrm{Cos}\left[\left(\frac{3}{2}+k\right)t\right]\mathrm{Sin}[t]+\left(\frac{3}{2}+k\right)^2 r^{\frac{1}{2}+k}\,\mathrm{Cos}\left[\left(\frac{3}{2}+k\right)t\right]\mathrm{Sin}[t]+\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\,\mathrm{Cos}[t]\,\mathrm{Sin}\left[\left(\frac{3}{2}+k\right)t\right]+\left(-\frac{3}{2}-k\right)\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\,\mathrm{Cos}[t]\,\mathrm{Sin}\left[\left(\frac{3}{2}+k\right)t\right]\right)\right)+\mathrm{Sin}[t]\left(\left(\frac{1}{2}+k\right)\left(\frac{3}{2}+k\right)r^{-\frac{1}{2}+k}\,\mathrm{Cos}[t]\,\mathrm{Cos}\left[\left(\frac{3}{2}+k\right)t\right]+\left(\frac{1}{2}+k\right)\left(\frac{3}{2}+k\right)r^{-\frac{1}{2}+k}\,\mathrm{Sin}[t]\,\mathrm{Sin}\left[\left(\frac{3}{2}+k\right)t\right]\right)$$

Simplify[%]

$$\frac{1}{4}\,(3+8\,k+4\,k^2)\,r^{-\frac{1}{2}+k}\,\mathrm{Sin}\left[\frac{1}{2}\,(t-2\,k\,t)\right]$$

$$\mathbf{TeXForm}\left[\frac{1}{4}\,(3+8\,k+4\,k^2)\,r^{-\frac{1}{2}+k}\,\mathrm{Sin}\left[\frac{1}{2}\,(t-2\,k\,t)\right]\right]$$

```
\frac{\left( 3 + 8\,k + 4\,k^2 \right) \,r^{-\left( \frac{1}{2} \right)  +
k}\,\sin (\frac{t - 2\,k\,t}{2})}{4}
```

dxx[f3[k]]

$$-\frac{1}{r}\left(\mathrm{Sin}[t]\left(-\left(\frac{1}{2}-k\right)\left(-\frac{1}{2}+k\right)r^{\frac{1}{2}+k}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+k\right)t\right]\mathrm{Sin}[t]-\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+k\right)t\right]\mathrm{Sin}[t]-\left(\frac{1}{2}-k\right)r^{\frac{1}{2}+k}\,\mathrm{Cos}[t]\,\mathrm{Sin}\left[\left(-\frac{1}{2}+k\right)t\right]+\left(\frac{1}{2}-k\right)\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\,\mathrm{Cos}[t]\,\mathrm{Sin}\left[\left(-\frac{1}{2}+k\right)t\right]\right)+\mathrm{Cos}[t]\left(\left(\frac{1}{2}+k\right)\left(\frac{3}{2}+k\right)r^{-\frac{1}{2}+k}\,\mathrm{Cos}[t]\,\mathrm{Cos}\left[\left(-\frac{1}{2}+k\right)t\right]-\left(\frac{1}{2}-k\right)\left(\frac{1}{2}+k\right)r^{-\frac{1}{2}+k}\,\mathrm{Sin}[t]\,\mathrm{Sin}\left[\left(-\frac{1}{2}+k\right)t\right]\right)$$

Simplify[%]

$$\frac{1}{4}\,(1+2\,k)\,r^{-\frac{1}{2}+k}\left((-1+2\,k)\,\mathrm{Cos}\left[\left(\frac{5}{2}-k\right)t\right]+4\,\mathrm{Cos}\left[\left(-\frac{1}{2}+k\right)t\right]\right)$$

$$\mathbf{TeXForm}\left[\frac{1}{4}\,(1+2\,k)\,r^{-\frac{1}{2}+k}\left((-1+2\,k)\,\mathrm{Cos}\left[\left(\frac{5}{2}-k\right)t\right]+4\,\mathrm{Cos}\left[\left(-\frac{1}{2}+k\right)t\right]\right)\right]$$

```
\frac{\left( 1 + 2\,k \right) \,r^{-\left( \frac{1}{2} \right)  + k}\,
    \left( \left( -1 + 2\,k \right) \,\cos (\left( \frac{5}{2} - k \right) \,t) +
      4\,\cos (\left( -\left( \frac{1}{2} \right)  + k \right) \,t) \right) }{4}
```

dxy[f3[k]]

$$\mathrm{Cos}[t]\left(\left(\frac{1}{2}+k\right)\left(\frac{3}{2}+k\right)r^{-\frac{1}{2}+k}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+k\right)t\right]\mathrm{Sin}[t]+\left(\frac{1}{2}-k\right)\left(\frac{1}{2}+k\right)r^{-\frac{1}{2}+k}\,\mathrm{Cos}[t]\,\mathrm{Sin}\left[\left(-\frac{1}{2}+k\right)t\right]\right)-\frac{1}{r}\left(\mathrm{Sin}[t]\left(\left(\frac{1}{2}-k\right)\left(-\frac{1}{2}+k\right)r^{\frac{1}{2}+k}\,\mathrm{Cos}[t]\,\mathrm{Cos}\left[\left(-\frac{1}{2}+k\right)t\right]+\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\,\mathrm{Cos}[t]\,\mathrm{Cos}\left[\left(-\frac{1}{2}+k\right)t\right]-\left(\frac{1}{2}-k\right)r^{\frac{1}{2}+k}\,\mathrm{Sin}[t]\,\mathrm{Sin}\left[\left(-\frac{1}{2}+k\right)t\right]+\left(\frac{1}{2}-k\right)\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\,\mathrm{Sin}[t]\,\mathrm{Sin}\left[\left(-\frac{1}{2}+k\right)t\right]\right)\right)$$

Simplify[%]

$$\frac{1}{4}\,(-1+2\,k)\,(1+2\,k)\,r^{-\frac{1}{2}+k}\,\mathrm{Sin}\left[\left(\frac{5}{2}-k\right)t\right]$$

$$\mathbf{TeXForm}\left[\frac{1}{4}\,(-1+2\,k)\,(1+2\,k)\,r^{-\frac{1}{2}+k}\,\mathrm{Sin}\left[\left(\frac{5}{2}-k\right)t\right]\right]$$

```
\frac{\left( -1 + 2\,k \right) \,\left( 1 + 2\,k \right) \,r^{-\left( \frac{1}{2}
\right)  + k}\,
    \sin (\left( \frac{5}{2} - k \right) \,t)}{4}
```

dyy[f3[k]]

$$\text{Sin}[t]\left(\left(\frac{1}{2}+k\right)\left(\frac{3}{2}+k\right)r^{-\frac{1}{2}+k}\text{Cos}\left[\left(-\frac{1}{2}+k\right)t\right]\text{Sin}[t]+\left(\frac{1}{2}-k\right)\left(\frac{1}{2}+k\right)r^{-\frac{1}{2}+k}\text{Cos}[t]\,\text{Sin}\left[\left(-\frac{1}{2}+k\right)t\right]\right)+\frac{1}{r}\left(\text{Cos}[t]\left(\left(\frac{1}{2}-k\right)\left(-\frac{1}{2}+k\right)r^{\frac{1}{2}+k}\text{Cos}[t]\,\text{Cos}\left[\left(-\frac{1}{2}+k\right)t\right]+\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\text{Cos}[t]\,\text{Cos}\left[\left(-\frac{1}{2}+k\right)t\right]-\left(\frac{1}{2}-k\right)r^{\frac{1}{2}+k}\text{Sin}[t]\,\text{Sin}\left[\left(-\frac{1}{2}+k\right)t\right]+\left(\frac{1}{2}-k\right)\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\text{Sin}[t]\,\text{Sin}\left[\left(-\frac{1}{2}+k\right)t\right]\right)\right)$$

Simplify[%]

$$-\frac{1}{4}(1+2k)\,r^{-\frac{1}{2}+k}\left((-1+2k)\,\text{Cos}\left[\left(\frac{5}{2}-k\right)t\right]-4\,\text{Cos}\left[\left(-\frac{1}{2}+k\right)t\right]\right)$$

TeXForm[$-\frac{1}{4}(1+2k)\,r^{-\frac{1}{2}+k}\left((-1+2k)\,\text{Cos}\left[\left(\frac{5}{2}-k\right)t\right]-4\,\text{Cos}\left[\left(-\frac{1}{2}+k\right)t\right]\right)$]

```
\frac{-\left( \left( 1 + 2\,k \right) \,r^{-\left( \frac{1}{2} \right)  + k}\,
      \left( \left( -1 + 2\,k \right) \,\cos (\left( \frac{5}{2} - k \right) \,t)
-
        4\,\cos (\left( -\left( \frac{1}{2} \right)  + k \right) \,t) \right)
\right) }{4}
```

dxx[f4[k]]

$$\text{Cos}[t]\left(-\left(-\frac{1}{2}+k\right)\left(\frac{1}{2}+k\right)r^{-\frac{1}{2}+k}\text{Cos}\left[\left(-\frac{1}{2}+k\right)t\right]\text{Sin}[t]+\left(\frac{1}{2}+k\right)\left(\frac{3}{2}+k\right)r^{-\frac{1}{2}+k}\text{Cos}[t]\,\text{Sin}\left[\left(-\frac{1}{2}+k\right)t\right]\right)-\frac{1}{r}\left(\text{Sin}[t]\left(-\left(-\frac{1}{2}+k\right)r^{\frac{1}{2}+k}\text{Cos}[t]\,\text{Cos}\left[\left(-\frac{1}{2}+k\right)t\right]+\left(-\frac{1}{2}+k\right)\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\text{Cos}[t]\,\text{Cos}\left[\left(-\frac{1}{2}+k\right)t\right]-\left(\frac{1}{2}-k\right)\left(-\frac{1}{2}+k\right)r^{\frac{1}{2}+k}\text{Sin}[t]\,\text{Sin}\left[\left(-\frac{1}{2}+k\right)t\right]-\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\text{Sin}[t]\,\text{Sin}\left[\left(-\frac{1}{2}+k\right)t\right]\right)\right)$$

Simplify[%]

$$\frac{1}{4}(1+2k)\,r^{-\frac{1}{2}+k}\left((1-2k)\,\text{Sin}\left[\left(\frac{5}{2}-k\right)t\right]+4\,\text{Sin}\left[\left(-\frac{1}{2}+k\right)t\right]\right)$$

TeXForm[$\frac{1}{4}(1+2k)\,r^{-\frac{1}{2}+k}\left((1-2k)\,\text{Sin}\left[\left(\frac{5}{2}-k\right)t\right]+4\,\text{Sin}\left[\left(-\frac{1}{2}+k\right)t\right]\right)$]

```
\frac{\left( 1 + 2\,k \right) \,r^{-\left( \frac{1}{2} \right)  + k}\,
    \left( \left( 1 - 2\,k \right) \,\sin (\left( \frac{5}{2} - k \right) \,t) +
      4\,\sin (\left( -\left( \frac{1}{2} \right)  + k \right) \,t) \right) }{4}
```

dxy[f4[k]]

$$-\frac{1}{r}\left(\text{Sin}[t]\left(-\left(-\frac{1}{2}+k\right)r^{\frac{1}{2}+k}\text{Cos}\left[\left(-\frac{1}{2}+k\right)t\right]\text{Sin}[t]+\left(-\frac{1}{2}+k\right)\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\text{Cos}\left[\left(-\frac{1}{2}+k\right)t\right]\text{Sin}[t]+\left(\frac{1}{2}-k\right)\left(-\frac{1}{2}+k\right)r^{\frac{1}{2}+k}\text{Cos}[t]\,\text{Sin}\left[\left(-\frac{1}{2}+k\right)t\right]+\left(\frac{3}{2}+k\right)r^{\frac{1}{2}+k}\text{Cos}[t]\,\text{Sin}\left[\left(-\frac{1}{2}+k\right)t\right]\right)\right)+\text{Cos}[t]\left(\left(-\frac{1}{2}+k\right)\left(\frac{1}{2}+k\right)r^{-\frac{1}{2}+k}\text{Cos}[t]\,\text{Cos}\left[\left(-\frac{1}{2}+k\right)t\right]+\left(\frac{1}{2}+k\right)\left(\frac{3}{2}+k\right)r^{-\frac{1}{2}+k}\text{Sin}[t]\,\text{Sin}\left[\left(-\frac{1}{2}+k\right)t\right]\right)$$

Simplify[%]

$$\frac{1}{4}(-1+2k)(1+2k)\,r^{-\frac{1}{2}+k}\text{Cos}\left[\left(\frac{5}{2}-k\right)t\right]$$

```
TeXForm[1/4 (-1 + 2 k) (1 + 2 k) r^(-1/2 + k) Cos[(5/2 - k) t]]
```

```
\frac{\left( -1 + 2\,k \right) \,\left( 1 + 2\,k \right) \,r^{-\left( \frac{1}{2}
\right)  + k}\,
    \cos (\left( \frac{5}{2} - k \right) \,t)}{4}
```

```
dyy[f4[k]]
```

$$\frac{1}{r}\Big(\mathrm{Cos}[t]\Big(-\left(-\frac{1}{2}+k\right) r^{\frac{1}{2}+k}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+k\right) t\right]\mathrm{Sin}[t]+\left(-\frac{1}{2}+k\right)\left(\frac{3}{2}+k\right) r^{\frac{1}{2}+k}\,\mathrm{Cos}\left[\left(-\frac{1}{2}+k\right) t\right]\mathrm{Sin}[t]+\left(\frac{1}{2}-k\right)\left(-\frac{1}{2}+k\right) r^{\frac{1}{2}+k}\,\mathrm{Cos}[t]\,\mathrm{Sin}\left[\left(-\frac{1}{2}+k\right) t\right]+\left(\frac{3}{2}+k\right) r^{\frac{1}{2}+k}\,\mathrm{Cos}[t]\,\mathrm{Sin}\left[\left(-\frac{1}{2}+k\right) t\right]\Big)+\mathrm{Sin}[t]\Big(\left(-\frac{1}{2}+k\right)\left(\frac{1}{2}+k\right) r^{-\frac{1}{2}+k}\,\mathrm{Cos}[t]\,\mathrm{Cos}\left[\left(-\frac{1}{2}+k\right) t\right]+\left(\frac{1}{2}+k\right)\left(\frac{3}{2}+k\right) r^{-\frac{1}{2}+k}\,\mathrm{Sin}[t]\,\mathrm{Sin}\left[\left(-\frac{1}{2}+k\right) t\right]\Big)$$

```
Simplify[%]
```

$$\frac{1}{4}(1+2k)\,r^{-\frac{1}{2}+k}\left((-1+2k)\,\mathrm{Sin}\left[\left(\frac{5}{2}-k\right) t\right]+4\,\mathrm{Sin}\left[\left(-\frac{1}{2}+k\right) t\right]\right)$$

```
TeXForm[1/4 (1 + 2 k) r^(-1/2 + k) ((-1 + 2 k) Sin[(5/2 - k) t] + 4 Sin[(-1/2 + k) t])]
```

```
\frac{\left( 1 + 2\,k \right) \,r^{-\left( \frac{1}{2} \right)  + k}\,
    \left( \left( -1 + 2\,k \right) \,\sin (\left( \frac{5}{2} - k \right) \,t) +
      4\,\sin (\left( -\left( \frac{1}{2} \right)  + k \right) \,t) \right) }{4}
```

(10.40),(10.41) Evaluation of squared hessian jump for candidates W , Φ along jump set

```
dx[u_] := Cos[t] * D[u, r] - Sin[t] * D[u, t] / r
dy[u_] := Sin[t] * D[u, r] + Cos[t] * D[u, t] / r
dxx[u_] := dx[dx[u]]
dyy[u_] := dy[dy[u]]
dxy[u_] := dx[dy[u]]
dyx[u_] := dy[dx[u]]
lap[u_] := dxx[u] + dyy[u]
hes2[u_] := dxx[u] ^2 + dyy[u] ^2 + 2 * dxy[u] ^2
```

```
W[r_, t_] :=  r^(3/2) * Sqrt[α / (193 * Pi)] *
                    ( Sqrt[21] * ( Sin[t/2] - 5/3 * Sin[3 * t/2] ) +
                                 ( Cos[t/2])  - 7/3 * Cos[3 * t/2]    )
```

```
Φ[r_, t_] := r^(3/2) * Sqrt[α / (193 * Pi)] *
                    ( Sqrt[21] * ( Sin[t/2] - 5/3 * Sin[3 * t/2] ) -
                                 ( Cos[t/2] - 7/3 * Cos[3 * t/2] )   )
```

```
Simplify[hes2[W[r, π]]]
```

$$\frac{420\,\alpha}{193\,\pi\,r}$$

```
Simplify[hes2[W[r, -π]]]
```

$$\frac{420\,\alpha}{193\,\pi\,r}$$

```
Simplify[hes2[Φ[r, π]]]
```

$$\frac{420\,\alpha}{193\,\pi\,r}$$

```
Simplify[hes2[Φ[r, -π]]]
```

$$\frac{420\,\alpha}{193\,\pi\,r}$$

How to evaluate modes and their derivatives and hessian along jump set

```
u /. t -> -Pi

u /. t -> Pi

Simplify[dy[u]] /. t -> Pi

Simplify[dy[u]] /. t -> -Pi

Simplify[dy[dy[u]]] /. t -> -Pi

Simplify[dy[dy[u]]] /. t -> Pi

Simplify[dy[dy[dy[u]]] + 2 * dx[dx[dy[u]]]] /. t -> Pi

Simplify[dy[dy[dy[u]]] + 2 * dx[dx[dy[u]]]] /. t -> -Pi

Simplify[hes2[u]] /. t -> Pi

Simplify[hes2[u]] /. t -> -Pi
```

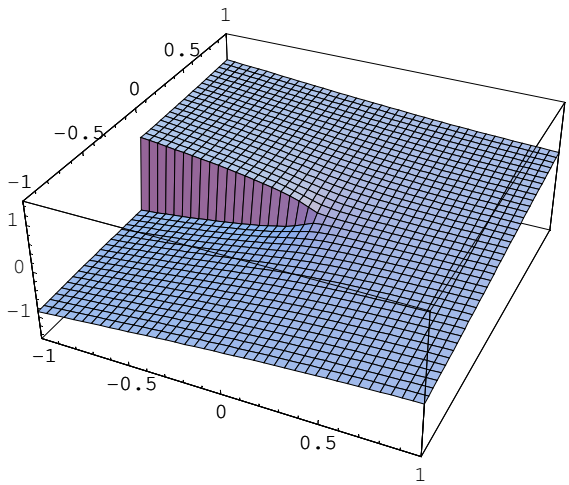
About Mumford-Shah functional

```
u := r^(1/2) * Sin[t/2]

Simplify[lp[u]]

Simplify[dy[u]] /. t -> -Pi

Simplify[dy[u]] /. t -> Pi

(dx[u]^2 + dy[u]^2) * r

Integrate[%, {r, 0, 1}, {t, -Pi, Pi}]

Simplify[(dx[u]^2 + dy[u]^2) * Cos[t] -
2 * dx[u] * D[u, r]]

Integrte[r * %, {t, -Pi, Pi}]

Simplify[(dx[u]^2 + dy[u]^2) * (dx[φ] + dy[ψ]) - 2 *
        (dx[u] * (dx[u] * dx[φ] + dy[u] * dx[ψ]) +
                dy[u] * (dx[u] * dy[φ] + dy[u] * dy[ψ]))]

Integrate[% * r, {t, -Pi, Pi}, {r, 0, 1}]

ParametricPlot3D[{r * Cos[t], r * Sin[t], u},
  {r, 0, 1}, {t, -Pi, Pi}, AspectRtio -> 1/2,
  ViewPoint -> {1.051, -3.180, 1.105}]
```

Graph of candidate for Mumford Shah functional

```
candMS[s_, t_] := If[x > 0, Im[Sqrt[2 (x + I y) / Pi]] ,
   Im[Sqrt[2 (x + I y) / Pi]] ] /. {x → s, y → t}
```

```
Plot3D[candMS[x, y], {x, -1, 1}, {y, -1, 1},
 PlotPoints → 40, PlotRange → {-1.5, 1.5},
 ViewPoint -> {1.196, -2.581, 1.833}]
```



- SurfaceGraphics -

-SurfaceGraphics-

Computations for generic crack-tip conditions (generic vector fields η in Theorem 5.5)

```
φ := (8 * r * Cos[t] + 1) * (1 - r^2)^6

ψ := (r * Cos[t] + 1) * (1 - r^2)^6

φ := (1 - r^2)^6

ψ = 0
```

0

```
Simplify[-(hes2[σ] * r * Cos[t] + 2 *
          dx[σ] *
         (dy[lp[σ]] * r * Sin[t] + dx[lp[σ]] * r * Cos[t])
          - 2 * r * Cos[t] * (dxx[σ]^2 + dxy[σ]^2) - 2 * r *
         Sin[t] * (dxx[σ] * dxy[σ] + dxy[σ] * dyy[σ])) * φ +
2 * dx[σ] * ((dxx[σ] * r * Cos[t] + dxy[σ] * r * Sin[t]) *
        dx[φ] +
       (dxy[σ] * r * Cos[t] + dyy[σ] * r * Sin[t]) * dy[φ])]
```

0

```
Integrate[%, {t, -Pi, Pi}]
```

```
Integrte[0, {t, -π, π}]
```

```
% /. r -> 0
```

```
Simplify[%]
```

```
Integrte[0, {t, -π, π}]
```

```
σ = r^4 * Cos[4 * t] - r^2
```

$-r^2 + r^4 \text{Cos}[4\,t]$

Global Euler equation (Theorem 5.1 without g, test functions φ e ψ are needed)
Symbolic computations about Section 5

```
φ := (8 * r * Cos[t] + 1) * (R^2 - r^2)^3
```

```
ψ := (r * Cos[t] + 1) * (R^2 - r^2)^3
```

```
φ := (1 - r^2)^6
```

```
ψ := 0
```

```
φ
```

```
ψ
```

```
Integrte[ r * Simplify[hes2[ω] * (dx[φ] + dy[ψ])
          - 4 *
         dxy[ω] * (dxx[ω] * dy[φ] + dxy[ω] * dx[φ] +
                   dx[ω] * dxy[φ] + dxy[ω] * dy[ψ] +
                   dyy[ω] * dx[ψ] + dy[ω] * dxy[ψ])
          - 2 *
         dxx[ω] * (dxx[ω] * dx[φ] + dxx[ω] * dx[φ] +
                   dx[ω] * dxx[φ] + dxy[ω] * dx[ψ] +
        dxy[ω] * dx[ψ] + dy[ω] * dxx[ψ])
          - 2 *
         dyy[ω] * (dxy[ω] * dy[φ] + dxy[ω] * dy[φ] +
                   dx[ω] * dyy[φ] + dyy[ω] * dy[ψ] +
        dyy[ω] * dy[ψ] + dy[ω] * dyy[ψ])
         ], {t, -Pi, Pi}, {r, 0, R}]
```

```
dx[φ]
```

```
Integrte[dx[φ], {r, 0, R}] /. t -> Pi
```

```
ω
```

```
Simplify[%]
```

Integration by parts (Theorem 5.2 without g, test functions φ e ψ are needed)
Symbolic computations about Section 5

```
u = r^4 * Cos[t]^4 + r^4 * Cos[t]^2 * Sin[t]^2
```

```
ω = u
```

```
Simplify[lp[u]]
```

```
Simplify[lp[%]]
```

```
φ = r^2 * (Cos[t]^2) + r^3 * Sin[t]^3
```

```
ψ = (r * Cos[t] + 1) * (1 + r^2)
```

```
φ := (1 - r^2)^6
```

```
ψ := 0

Simplify[hes2[ω] * (dx[φ] + dy[ψ])
          - 4 *
         dxy[ω] * (dxx[ω] * dy[φ] + dxy[ω] * dx[φ] +
                   dx[ω] * dxy[φ] + dxy[ω] * dy[ψ] +
                   dyy[ω] * dx[ψ] + dy[ω] * dxy[ψ])
          - 2 *
         dxx[ω] * (dxx[ω] * dx[φ] + dxx[ω] * dx[φ] +
                   dx[ω] * dxx[φ] +
      dxy[ω] * dx[ψ] + dxy[ω] * dx[ψ] + dy[ω] * dxx[ψ])
          - 2 *
         dyy[ω] * (dxy[ω] * dy[φ] + dxy[ω] * dy[φ] +
                   dx[ω] * dyy[φ] +
      dyy[ω] * dy[ψ] + dyy[ω] * dy[ψ] + dy[ω] * dyy[ψ])
         ]

Integrte[ % * r, {r, 0, R}, {t, -Pi, Pi}]

-2 * Simplify[lp[lp[u]] * (φ * dx[u] + ψ * dy[u])]

1 = Integrte[ % * r, {t, -Pi, Pi}, {r, 0, 1}]

Simplify[hes2[u] * (φ * Cos[t] + ψ * Sin[t]) -
  2 * φ * (dxx[u] * dxx[u] * Cos[t] +
      dxx[u] * dxy[u] * Sin[t] + dxy[u] * dxy[u] * Cos[t] +
      dxy[u] * dyy[u] * Sin[t]) - 2 * ψ *
    (dxx[u] * dxy[u] * Cos[t] + dxy[u] * dxy[u] * Sin[t] +
      dxy[u] * dyy[u] * Cos[t] + dyy[u] * dyy[u] * Sin[t]) +
  2 * φ * dx[u] * (dx[lp[u]] * Cos[t] + dy[lp[u]] * Sin[t]) +
  2 * ψ * dy[u] * (dx[lp[u]] * Cos[t] + dy[lp[u]] * Sin[t])]

2 = Integrte[%, {t, -Pi, Pi}]
```

```
Simplify[
 -2 * dx[u] * dx[φ] * (dxx[u] * Cos[t] + dxy[u] * Sin[t]) -
  2 * dy[φ] * dx[u] * (dxy[u] * Cos[t] + dyy[u] * Sin[t]) -
  2 * dy[u] * dx[ψ] * (dxx[u] * Cos[t] + dxy[u] * Sin[t]) -
  2 * dy[ψ] * dy[u] * (dxy[u] * Cos[t] + dyy[u] * Sin[t])]
```

```
3 = Integrte[%, {t, -Pi, Pi}]
```

Integration by parts over half-disk with generic vector field η
(Theorem 5.2 without g, test functions φ e ψ are needed)

```
u = r^4 * Cos[t]^4 - 2 * r^3 * Cos[t]^2 * Sin[t]
```

```
u = r^4 * Cos[t]^4 + r^4 * Cos[t]^2 * Sin[t]^2
```

```
ω = u
```

```
Simplify[lp[u]]
```

```
Simplify[lp[%]]
```

```
φ = r^2 * (Cos[t]^2) - 3 * r^3 * Sin[t]^3
```

```
ψ = (r * Cos[t] + 1) * (1 + r^2)
```

```
φ := (1 - r^2)^6
```

```
ψ = r^2 - 7 * r^5 * Sin[t]^5
```

```
LHS = Integrte[ r * Simplify[hes2[ω] * (dx[φ] + dy[ψ])
          - 4 *
         dxy[ω] * (dxx[ω] * dy[φ] + dxy[ω] * dx[φ] +
                  dx[ω] * dxy[φ] + dxy[ω] * dy[ψ] +
                  dyy[ω] * dx[ψ] + dy[ω] * dxy[ψ])
          - 2 *
         dxx[ω] * (dxx[ω] * dx[φ] + dxx[ω] * dx[φ] +
                  dx[ω] * dxx[φ] + dxy[ω] * dx[ψ] +
         dxy[ω] * dx[ψ] + dy[ω] * dxx[ψ])
          - 2 *
         dyy[ω] * (dxy[ω] * dy[φ] + dxy[ω] * dy[φ] +
                  dx[ω] * dyy[φ] + dyy[ω] * dy[ψ] +
         dyy[ω] * dy[ψ] + dy[ω] * dyy[ψ])
         ], {r, 0, R}, {t, 0, Pi}]


1 = Integrte[
  -2 * Simplify[lp[lp[u]] * (φ * dx[u] + ψ * dy[u])] * r,
  {r, 0, R}, {t, 0, Pi}]

2 = R *
   Integrte[Simplify[hes2[u] * (φ * Cos[t] + ψ * Sin[t]) -
      2 * φ * (dxx[u] * dxx[u] * Cos[t] +
         dxx[u] * dxy[u] * Sin[t] + dxy[u] * dxy[u] *
          Cos[t] + dxy[u] * dyy[u] * Sin[t]) -
      2 * ψ * (dxx[u] * dxy[u] * Cos[t] + dxy[u] *
          dxy[u] * Sin[t] + dxy[u] * dyy[u] * Cos[t] +
         dyy[u] * dyy[u] * Sin[t]) + 2 * φ * dx[u] *
       (dx[lp[u]] * Cos[t] + dy[lp[u]] * Sin[t]) + 2 * ψ *
       dy[u] * (dx[lp[u]] * Cos[t] + dy[lp[u]] * Sin[t])],
    {t, 0, Pi}] /. r -> R
```

```
3 = Integrte[Simplify[hes2[u] * (-ψ) -
      2 * φ * (-dxx[u] * dxy[u] - dxy[u] * dyy[u]) -
      2 * ψ * (-dxy[u] * dxy[u] - dyy[u] * dyy[u]) +
      2 * φ * dx[u] * (-dy[lp[u]]) +
      2 * ψ * dy[u] * (-dy[lp[u]])], {r, 0, R}] /. t -> 0

4 = Integrte[Simplify[hes2[u] * (-ψ) -
      2 * φ * (-dxx[u] * dxy[u] - dxy[u] * dyy[u]) -
      2 * ψ * (-dxy[u] * dxy[u] - dyy[u] * dyy[u]) +
      2 * φ * dx[u] * (-dy[lp[u]]) +
      2 * ψ * dy[u] * (-dy[lp[u]])], {r, 0, R}] /. t -> Pi

5 = R * Integrte[Simplify[-2 * dx[u] * dx[φ] *
        (dxx[u] * Cos[t] + dxy[u] * Sin[t]) - 2 * dy[φ] *
        dx[u] * (dxy[u] * Cos[t] + dyy[u] * Sin[t]) - 2 *
        dy[u] * dx[ψ] * (dxx[u] * Cos[t] + dxy[u] * Sin[t]) -
      2 * dy[ψ] * dy[u] * (dxy[u] * Cos[t] +
          dyy[u] * Sin[t])], {t, 0, Pi}] /. r -> R

6 = Integrte[
   Simplify[-2 * dx[u] * dx[φ] * (-dxy[u]) - 2 * dy[φ] *
       dx[u] * (-dyy[u]) - 2 * dy[u] * dx[ψ] * (-dxy[u]) -
      2 * dy[ψ] * dy[u] * (-dyy[u])], {r, 0, R}] /. t -> 0

7 = Integrte[
   Simplify[-2 * dx[u] * dx[φ] * (-dxy[u]) - 2 * dy[φ] *
       dx[u] * (-dyy[u]) - 2 * dy[u] * dx[ψ] * (-dxy[u]) -
      2 * dy[ψ] * dy[u] * (-dyy[u])], {r, 0, R}] /. t -> Pi

RHS = Simplify[1 + 2 + 3 + 4 + 5 + 6 + 7]

Simplify[LHS - RHS]
```