

# ON THE STRONGLY DAMPED WAVE EQUATION

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ABSTRACT. We prove the existence of the universal attractor for the strongly damped semilinear wave equation, in presence of a quite general nonlinearity of critical growth. When the nonlinearity is subcritical, we prove the existence of an exponential attractor of optimal regularity, having a basin of attraction coinciding with the whole phase-space. As a byproduct, the universal attractor is regular and of finite fractal dimension. Moreover, we carry out a detailed analysis of the asymptotic behavior of the solutions in dependence of the damping coefficient.

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