

# **Spatially homogeneous Boltzmann hierarchy as averaged spatially inhomogeneous stochastic Boltzmann hierarchy**

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Recently authors have introduced the stochastic dynamics in phase space that corresponds the Boltzmann equation and hierarchy. It is the Boltzmann-Grad limit of Hamiltonian dynamics of systems of hard spheres. By method of averaging over space of positions we have derived from it the stochastic dynamics in momentum space that corresponds to the space-homogeneous Boltzmann equation and Hierarchy. Analogous dynamics in mean-field approximation had been postulated by Kac for explanation of the phenomenon of propagation of chaos and derivation of the Boltzmann equation.