
Global properties of solutions to the Einstein-Boltzmann system with Bianchi I symmetry

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Abstract

In this talk we consider the Einstein-Boltzmann system with Bianchi I symmetry. A suitable assumption will be made on the scattering kernel, and initial data will be assumed to be small, in the sense that the universe is almost isotropic and collisions between particles are very small. We obtain global-in-time existence and asymptotic behaviour of classical solutions, and will see that solutions behave as dust at late times, like the Einstein-Vlasov system. For the Einstein part, we use the bootstrap argument, which has recently been applied to the Einstein-Vlasov system with Bianchi I symmetry by Nungesser, and for the Boltzmann part, we use the decomposition argument, which has been developed by Guo and Strain for the relativistic Boltzmann equation. This is a jointwork with Ernesto Nungesser.

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