

L^p -scattering and uniform stability of kinetic equations

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Abstract

In this talk, we will review recent progress on the L^p -scattering and uniform stability of several kinetic equations with self-consistent forces. For the Vlasov equation with a self-consistent force, we will show that the Coulomb's potential in three dimensions is critical in the sense that if spatial dimension is larger than three, there exists a L^1 -scattering, whereas for low dimensions less than equal to three, there is no L^1 -scattering. We also present a framework for the L^p -stability of kinetic equations. This is a joint work with Sun-Ho Choi (NUS) and Qinghua Xiao (SNU).