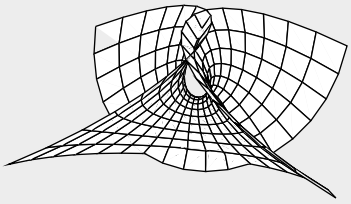

Oberseminar Mathematische Strömungsmechanik

Institut für Mathematik der Julius-Maximilians-Universität Würzburg

Gi-Chan Bae

Sungkyunkwan University, South Korea

Existence of solutions to a quantum kinetic model near a global Fermi-Dirac distribution

Abstract:

The quantum kinetic BGK equation is a relaxation model of quantum Boltzmann equation describing dynamics of fermion gases. In this presentation, we consider the existence and asymptotic behavior of the fermionic quantum BGK model. More precisely, we establish the existence of unique classical solutions and their exponentially fast stabilization when the initial data starts sufficiently close to a global Fermi-Dirac distribution. There are two main difficulties unobserved in the study of the classical BGK model. First is linearization process of the quantum equilibrium. Secondly, we must verify that the parameters of equilibrium are uniquely determined through a set of nonlinear equations in each iteration step.

Raum 40.03.003 (Mathematikgebäude Ost) Dienstag, der 3. März. 2020 um 13 Uhr

Zu diesem Vortrag sind Sie herzlich eingeladen.

gez. Christian Klingenberg