Kinetic Seminar

Cutoff Boltzmann equation with polynomial perturbation near Maxwellian
by

Dr. Chuqi Cao
Tsinghua University

Abstract :

In this talk, we will present the well-posedness for the Boltzmann equation with angular cutoff when the initial data is close to the global Maxwellian and has only polynomial decay at large velocities. We also show that initially polynomial decay for the large velocity in L^2 space will induce polynomial decay rate, while initially exponential decay will induce exponential rate for the convergence. Our proof is based on newly established inequalities for the cutoff Boltzmann equation and semigroup techniques. Moreover, we present the global existence and uniqueness of a mild solution to the Boltzmann equation with bounded polynomial weighted $L^\infty_{x, v}$ norm under some small condition on the initial $L^1_x L^\infty_v$ norm and entropy so that this initial data allows large amplitude oscillations.

Date :	August 11, 2022 (Thursday)
Time :	4:00-5:00pm (Hong Kong SAR)
Zoom link:	
https://cuhk.zoom.us/j/96233867907?pwd=NmlmWjcyRTh6UU12bExMUTZZTUZJUT09	
Meeting ID: 962 3386 7907	
Passcode: 20220811	

All are Welcome