THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY

Department of Mathematics

SEMINAR ON PDE

The Landau equation does not blow up

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Abstract

The Landau equation is one of the main equations in kinetic theory. It models the evolution of the density of particles when they are assumed to repel each other by Coulomb potentials. It is a limit case of the Boltzmann equation with very soft potentials. In the space-homogeneous case, we show that the Fisher information is monotone decreasing in time. As a consequence, we deduce that for any initial data the solutions stay smooth and never blow up, closing a well-known open problem in the area.

Date: 23 February 2024 (Friday)

Time: 9:30am

Zoom Meeting: https://hkust.zoom.us/j/96717363318 (Passcode: 679489)

All are Welcome!