北京理工大學

数学与统计学院学术报告

Quantitative Mean-Field Limits for Singular Interactions: Entropy, Modulated Energies, and Recent Results

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时　间： 2026年5月14日15：00

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摘　要： Mean-field limits and propagation of chaos for interacting particle systems with singular interaction forces have recently seen major advances, driven by new quantitative stability techniques beyond the classical Lipschitz regime. This talk surveys a work-centered line of developments based on relative entropy, modulated energy / modulated free energy, and duality methods, highlighting how they deliver explicit quantitative control for singular kernels. I will then present our recent progress on particle approximations of the Landau equation, non-exchangeable particle systems, and selected links to PDE numerical algorithms. The talk concludes with several open problems and future directions.

个人简介： 王振富，2017年博士毕业于美国马里兰大学，之后在美国宾夕法尼亚大学任Hans Radmacher讲师。2020年10月起加入北京大学北京国际数学研究中心，任助理教授，研究员。主要研究领域为多体系统的平均场极限和动理学方程的分析与应用。主要研究成果发表于Invent. Math., Duke Math. J., ARMA等重要数学杂志。

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