



偏微分方程及其应用中心

学术报告

报告题目: Global well-posedness and optimal time decay rates of solutions to the Euler(-Poisson)-Navier-Stokes system

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时间: 2024年9月4日 (星期三) 2:30 pm

地点: 数学院南楼 613

摘要: In this talk, we will focus on the global well-posedness and large-time behavior of solutions for a coupled fluid model in \mathbb{R}^3 comprising the isothermal compressible Euler(-Poisson) system and incompressible Navier-Stokes equations coupled through the drag force. In the first part, we will present the optimal decay rate over time for Euler-Navier-Stokes equations when considering small initial perturbations belonging to L^1 space. In the second part, we will demonstrate how electric fields influence the dissipation effects inherent in the Poisson equation to achieve a faster decay of fluid density compared to velocities.