

Enhanced dissipation and temporal decay
in the Euler-Poisson-Navier-Stokes equations.

Young-Pil Choi

Yonsei University

Abstract

In this talk, we discuss the global well-posedness and large-time behavior of solutions for a coupled fluid model consisting of the isothermal compressible Euler-Poisson system and incompressible Navier-Stokes equations coupled through the drag force. We exploit the dissipation effects inherent in the Poisson equation to achieve a faster decay of fluid density compared to velocities. This talk is based on a joint work with Houzhi Tang and Weiyuan Zou.