

Enhanced damping and instability index theorem for 2D Euler equation

Zhiwu Lin, Georgia Institute of Technology

First, we will discuss a recent result on the enhanced damping (metastability) of Kolmogorov flows in a Torus. This is joint work with Ming Xu. Second, we will describe an index formula on the linear instability of a class of steady flows of 2D Euler equation. This is joint work with Chongchun Zeng. In both parts, the Hamiltonian structures of the fluid equations play an important role.