

1152-34-70

Kun Zhao* (kzhao@tulane.edu), New Orleans, LA 70118. *Analysis of Hydrodynamic Mixture Models.*

The coupling of Cahn-Hilliard equation with fluid flow models appear frequently in the mathematical studies of hydrodynamic mixture flows. In this talk, I will discuss some recent results on the qualitative analysis of large-data classical solutions to the Cahn-Hilliard-Brinkman equations and active-scalar-driven Cahn-Hilliard-Navier-Stokes equations. In particular, the global well-posedness and long-time behavior of large-data classical solutions to the models in energy critical spaces will be discussed. (Received August 20, 2019)