

数学与系统科学研究院

计算数学所学术报告

报告人: Associate Prof. Xiaofeng Yang

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报告题目:

**NUMERICAL APPROXIMATIONS
FOR HYDRODYNAMICS COUPLED
TERNARY PHASE FIELD MODEL
OF THE WATER-OIL-SURFACTANT
SYSTEM**

邀请人: 于海军 副研究员

报告时间: 2016年2月25日(周四)

上午 10:00~11:00

报告地点: 科技综合楼三层

301 小报告厅

Abstract:

In this paper, we consider the numerical approximations of the classical phase-field model for the water-oil-surfactant system. The system is a highly nonlinear model that couples the incompressible Navier-Stokes equations, and two nonlinear coupled fourth-order Cahn-Hilliard type equations. Using the quasi-Lagrangian-multiplier approach and some subtle explicit-implicit treatments for the nonlinear coupling entropy terms, we develop unconditionally energy stable, linear, decoupled time discretization schemes. Stability analysis and ample numerical simulations are presented thereafter.

欢迎大家参加！