

数学与系统科学研究院

计算数学所学术报告

报告人: **Dr. Yunhui He**

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报告题目:

**Vector-potential finite-element
formulations for two-dimensional
resistive magnetohydrodynamics**

邀请人: 谢和虎 研究员

报告时间: 2016 年 12 月 7 日 (周三)

上午 10:00-11:00

报告地点: 科技综合楼三层

305 会议室

Abstract:

Vector-potential formulations are attractive for electromagnetic problems in two dimensions, since they reduce both the number and complexity of equations, particularly in coupled systems, such as magnetohydrodynamics (MHD). In this talk, we consider the finite-element formulation of a vector-potential model of two-dimensional resistive MHD. Existence and uniqueness are considered separately for the continuum nonlinear equations and the discretized and linearized form that arises from Newton's method applied to a modified system. Under some conditions, we prove that the solutions of the original and modified weak forms are the same, allowing us to prove convergence of both the discretization and the nonlinear iteration.

欢迎大家参加！