数学与系统科学研究院

计算数学所学术报告

报告人：Prof. Tong Kang

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报告题目：

Fully Discrete T-ψ Finite Element Method to Solve a Nonlinear Induction Hardening Problem

邀请人： 曹礼群 研究员

报告时间：2019 年 7 月 19 日（周五）下午 16:00-17:00

报告地点： 数学院南楼七层 **702** 教室

Abstract:

We study an induction hardening model described by Maxwell's equations coupled with a heat equation. The magnetic induction field is assumed a nonlinear constitutional relation and the electric conductivity is temperature dependent. The T-ψ method is to transform Maxwell's equations to the vector scalar potential for mulations and to solve the potentials by means of the finite element method.

In this talk, we present a fully discrete T-ψ finite element scheme for this nonlinear coupled problem and discuss its solvability. We prove that the discrete solution converges to a weak solution of the continuous problem. Finally, we conclude with several numerical experiments for the coupled system.

欢迎大家参加！