数学与系统科学研究院

计算数学所学术报告

报告人： **Prof. Haijun Wu**

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报告题目：

Finite element method and its analysis for a nonlinear Helmholtz equation with high wave numbers

邀请人： 陈志明 院士

报告时间：**2018 年 5 月 17 日（周四）**

下午 14:30-15:30

报告地点： 数学院南楼七层

714 教室

Abstract：

The well-posedness of a nonlinear Helmholtz equation with an impedance boundary condition is established for high frequencies in two and three dimensions. Stability estimates are derived with explicit dependence on the wave number. Linear finite elements are considered for the discretization of the nonlinear Helmholtz equation, and the well-posedness of the finite element systems is analyzed. Stability and preasymptotic error estimates of the finite element solutions are achieved with explicit dependence on the wave number. Numerical examples are also presented to demonstrate the effectiveness and accuracies of the proposed finite element method for solving the nonlinear Helmholtz equation.

欢迎大家参加！