数学与系统科学研究院

计算数学所网络学术报告

报告人：　Prof. Jiguang Sun

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报告题目：

A New Finite Element Approach for Nonlinear Eigenvalue Problems

邀请人：　张硕　副研究员

报告时间：2020 年 7 月 24 日（周五）

上午 9:00-10:00

报告工具：腾讯会议（ID：437 520 778）

直播地址：

https://meeting.tencent.com/s/BuIEtADJkSEs

Abstract:

We propose a new finite element approach, which is different than the classic Babu\v{s}ka-Osborn theory, for some nonlinear eigenvalue problems. The eigenvalue problem is formulated as the eigenvalue problem of a holomorphic Fredholm operator function of index zero. Finite element methods are used for discretization. The convergence of eigenvalues/eigenvectors is proved using the abstract approximation theory for holomorphic operator functions. Then the spectral indicator method is extended to compute the eigenvalues/eigenvectors. Two nonlinear eigenvalue problems are treated using the proposed approach.

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