

1147-65-187

Juan Liu (liujuan@jnu.edu.cn), **Jiguang Sun*** (jiguangs@mtu.edu) and **Tiara Turner** (tdturner@umes.edu). *Spectral Indicator Method for A Non-selfadjoint Steklov Eigenvalue Problem.*

We propose an efficient numerical method for a non-selfadjoint Steklov eigenvalue problem. The Lagrange finite element is used for discretization and the convergence is proved using the spectral perturbation theory for compact operators. The non-selfadjointness of the problem leads to non-Hermitian matrix eigenvalue problem. Due to the existence of complex eigenvalues and lack of a priori spectral information, we employ the recently developed spectral indicator method to compute eigenvalues in a given region on the complex plane. Numerical examples are presented to validate the effectiveness of the proposed method. (Received January 08, 2019)