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Eigenvalue Asymptotics for Dirichlet-to-Neumann Operator

Abstract:

Let \( X \) be a compact manifold with the boundary \( \partial X \) and \( R (\lambda) \) be a Dirichlet-to-Neumann operator:
\[
R (\lambda): f \mapsto u|_{\partial X}
\]
where \( u \) solves \( (\Delta + \lambda^2) u = 0, \ u|_{\partial X} = f \). We establish asymptotics as \( \lambda \to + \infty \) of the number of eigenvalues of \( \lambda^{-1} R (\lambda) \) between \( s_1 \) and \( s_2 \).

This is a joint work with Andrew Hassell, Australian National University.