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:

$$ R(\lambda) : f \mapsto u|_{\partial X} \text{ where } u \text{ solves } (\Delta + \lambda^2) u = 0, \ u|_{\partial X} = f. $$

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.