Eigenvalue Asymptotics for Dirichlet-to-Neumann Operator

Abstract:

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

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