

Mathematics Department Colloquium

Organizer: Maciej Zworski

Thursdays, 4:10–5:00pm, 60 Evans

March 3 **Tanya Christianson**, University of Missouri

Resonances and Schrödinger operators

Resonances are a replacement for eigenvalues for a class of operators on noncompact domains. Physically, they correspond to metastable states, with the real part giving the energy and the imaginary part the rate of decay.

We give an introduction to resonances, concentrating on Schrödinger operators on \mathbf{R}^d . If $d \geq 2$, then rather little is known about the resonance counting function (an analog of the eigenvalue counting function) and we give evidence that its behaviour is subtle. We also give an explicit construction of isoresonant Schrödinger operators.