

Meeting: 1003, Atlanta, Georgia, SS 16A, AMS Special Session on Inverse Spectral Geometry, I

1003-35-778 **T. Christiansen*** (tjc@math.missouri.edu), Department of Mathematics, University of Missouri, Columbia, MO 65211. *Schrödinger operators with complex-valued potentials and no resonances.*

In dimension $d \geq 3$, we give examples of nontrivial, compactly supported, complex-valued potentials such that the associated Schrödinger operators have no resonances. If $d = 2$, we show that there are potentials with no resonances away from the origin. These Schrödinger operators are isophasal and have the same scattering phase as the Laplacian on \mathbb{R}^d . In odd dimensions $d \geq 3$ we study the fundamental solution of the wave equation perturbed by such a potential. If the space variables are held fixed, it is super-exponentially decaying in time. (Received September 29, 2004)