Contribution Title: SPECTRAL SINGULARITIES AND THEIR PHYSICAL
                               APPLICATIONS
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A spectral singularity is an obstruction to the completeness of the eigenfunctions of the Schroedinger operator with a complex scattering potential. We offer a simple physical interpretation of spectral singularities as the real energy values for which both the reflection and transmission coefficients diverge. This in turn allows for identifying spectral singularities with resonances having a zero width. We describe the spectral singularities of a class of point interactions as well as a piecewise constant imaginary potential. The latter arises in modeling a certain type of electromagnetic wave guides. At the frequency of a spectral singularity the wave guide operators as a resonator. The resonance phenomenon associated with the presence of spectral singularities may be used as a method of amplifying guided electromagnetic waves.