

Abstract

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On spectral properties of the resonances for ed potential scattering systems.

The resonances (poles of the scattering matrix) of quantum mechanical scattering by central-symmetric potentials with compact support $\&\#97;\&\#110;\&\#100;$ zero angular momentum are spectrally characterized directly in terms of the Hamiltonian by a (generalized) eigenvalue problem distinguished by an additional condition (called boundary condition). The connection between the (generalized) eigenspace of a resonance and corresponding Gamov vectors is pointed out. A condition is presented such that a relation between special transition probabilities $\&\#97;\&\#110;\&\#100;$ infinite sums of residual terms for all complex-conjugated pairs of resonances can be proved. In the case of the square well potential the condition is satisfied.