

Scattering poles near the real axis for two strictly convex obstacles

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Abstract

To study the location of poles for the acoustic scattering matrix for two strictly convex obstacles with smooth boundaries, one uses an approximation of the quantized billiard operator M along the trapped ray between the two obstacles. Assuming that the boundaries are analytic and the eigenvalues of Poincaré map are non-resonant we use the Birkhoff normal form for M to get the complete asymptotic expansions for the poles in any logarithmic neighborhood of real axis.