EQUIDISTRIBUTION AND NON-EQUIDISTRIBUTION OF PHASE SHIFTS

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Waves scattered by a decaying potential can be studied via analysis of a time-independent Schroedinger operator whose generalized eigenfunctions are asymptotically given by two radial waves, an incoming wave whose profile can be chosen, and the corresponding outgoing wave whose profile is a result of scattering by the potential. The operator relating the two, the scattering matrix, is unitary, and its eigenvalues, the 'phase shifts,' give important physical information about the system. In this talk we describe recent work on the distribution of phase shifts at high energy. This is joint work with Datchev, Hassell, Humphries, with Hassell, Zelditch. and with Hassell.