

N -body long-range scattering matrix

Speaker: Erik Skibsted

(Aarhus University)

Abstract

Within the class of Dereziński pair-potentials (including Coulomb potentials), for which asymptotic completeness is known, we show that all entries of the N -body quantum scattering matrix have a well-defined meaning at any given non-threshold energy. As a function of the energy parameter the scattering matrix is strongly continuous. These results generalize similar ones obtained previously by Yafaev for systems of particles interacting by short-range potentials. As in his paper we do not make any assumption on the decay of channel eigenstates. The main part of the proof consists in establishing a number of Kato-smoothness bounds needed for justifying a new formula for the scattering matrix.