

Abstract Submitted
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Three-body scattering hypervolume for bosons with two-body repulsive Gaussian potentials SHANGGUO ZHU, SHINA TAN, Georgia Inst of Tech — It has been known that the three-boson low energy effective interaction influences the dynamic and the static properties of many bosons, including the ground state energy of a dilute Bose-Einstein condensate. The three-body scattering hypervolume, which is a three-body analogue of the two-body scattering length, characterizes this effective interaction. For bosons with two-body repulsive Gaussian potentials, we determine the scattering hypervolume by solving the three-body Schrödinger equation numerically, and matching the solution with the asymptotic expansions for the wave function at large hyperradii.

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