

Abstract Submitted
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Three-Body Recombination of Identical Bosons with a Large Positive Scattering Length at Nonzero Temperature¹ DAEKYOUNG KANG, LUCAS PLATTER, ERIC BRAATEN, Department of Physics, The Ohio State University, HANS HAMMER, Helmholtz-Institut fuer Strahlen- und Kernphysik (Theorie), Universitaet Bonn — For identical bosons with a large scattering length, the dependence of the 3-body recombination rate on the collision energy is determined by universal functions of a single scaling variable. There are six scaling functions for angular momentum zero and one scaling function for each higher partial wave. We calculate these universal functions by solving the Skorniakov-Ter-Martirosian equation. The results for the 3-body recombination as a function of the collision energy are in good agreement with previous results from solving the 3-body Schrodinger equation for He-4 atoms. The universal scaling functions can be used to calculate the 3-body recombination rate at nonzero temperature. We obtain an excellent fit to the data from the Innsbruck group for Cs-133 atoms with a large positive scattering length.

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