

Abstract Submitted
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Universal three-body recombination via resonant d -wave interactions¹ JIA WANG, Department of Physics, University of Connecticut, Storrs, Connecticut 06269, USA, JOSE D'INCAO, Department of Physics and JILA, University of Colorado, Boulder, Colorado 80309, USA, YUJUN WANG, Joint Quantum Institute, University of Maryland and NIST, College Park, Maryland 20742, USA, CHRIS GREENE, Department of Physics, Purdue University, West Lafayette, Indiana 47907, USA — For a system of three identical bosons interacting via short-range forces, when two of the atoms are about to form a two-body s -wave dimer, the Efimov effect takes place leading to the formation of an infinite number of three-body (Efimov) states. The present study focuses on a generalized version of this Efimov scenario, where two of the atoms are about to form a two-body d -wave dimer, resulting in strong d -wave interactions. Our results demonstrate that a single universal three-body state associated with the d -wave dimer is also formed near the three-body break-up threshold. Such a universal three-body state is signaled by an enhancement of the three-body recombination rate.

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Jia Wang
Department of Physics, University of Connecticut, Storrs,
Connecticut 06269, USA

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