

Abstract Submitted
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Generating Efimov molecules by four-body recombination¹ YUJUN WANG, B.D. ESRY, Department of Physics, Kansas State University — We investigate the formation of Efimov trimer states via four-body collisions involving three resonantly interacting, identical bosons and a fourth distinguishable atom. We assume the interaction with this distinguishable atom is perturbative, allowing us to apply an analytical approach. The recombination probability is characterized by sharp peaks corresponding to Efimov trimer formation. We also present results for the non-resonant boson-boson interaction case. Specifically, we give the scaling behavior when the boson-boson scattering length is large and negative. Finally, we discuss the conditions under which this process might be observed experimentally.

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