

Abstract Submitted
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A detailed analysis of threshold behavior for the Efimov effect¹

R. CÔTÉ, I. SIMBOTIN, D. SHU, University of Connecticut, Storrs — We analyze the energy dependence of the three-body recombination rate K_3 for systems which possess Efimov states, and we identify a new regime of energies, characterized by a simple behavior of $K_3(E)$. Using a model which captures the key features of the Efimov problem, we confirm the oscillatory behavior at high energy found by Esry et al. However, we find that in the ultracold limit, the oscillatory behavior does not transition directly into the Wigner type behavior. We uncovered a domain of intermediate energies between the Wigner and the oscillatory regimes. The extent of the new energy regime is determined by the Efimov state nearest to the threshold, or by an Efimov resonance just above the threshold.

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