

Abstract Submitted
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Analysis of the Four-Boson System with Large Scattering Length¹

JAVIER VON STECHER, JOSE P. D'INCAO, CHRIS H. GREENE, JILA and Department of Physics, University of Colorado, Boulder, Colorado 80309-0440 — We investigate the properties of four-boson systems interacting through a short-range two-body potential. Tuning the scattering length close to unitarity, we analyze the universal aspects of such systems. Combining correlated Gaussian calculations with a hyperspherical treatment, we obtain hyperspherical effective potentials and study the collisional aspects for such bosonic systems. In particular, we consider possible Efimov trimer formation due to dimer-dimer collisions.

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