

Abstract Submitted
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Analysis of strongly interacting few-body systems under external confinement¹ JAVIER VON STECHER, Department of Physics and JILA, University of Colorado, Boulder, Colorado 80309-0440, JOSE P. D'INCAO, JILA, University of Colorado, Boulder, Colorado 80309-0440, CHRIS H. GREENE, Department of Physics and JILA, University of Colorado, Boulder, Colorado 80309-0440 — We investigate the properties of three and four-body systems under external confinement interacting through a short range model potential. Using a correlated gaussian basis set, we study the spectra as a function of the two-body scattering length for fermionic and bosonic systems. From these results we can extract the main properties of the hyperspherical effective potentials, which in turn dictates the main collisional aspects for such systems. We also investigate the existence of weakly bound four-body states and their relation with the Efimov physics.

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