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Universal relations in ultracold three-body observables associated with Efimov physics¹ JOSE P. D'INCAO, JIA WANG, YUJUN WANG, CHRIS H. GREENE, Department of Physics and JILA, University of Colorado at Boulder — We explore universal aspects in homonuclear and heteronuclear three-body systems displaying the Efimov effect using the adiabatic hyperspherical representation. The existence of repulsive barrier in the three-body adiabatic potentials prevent atoms to approach small distances and, consequently, to access the region where the details of the interactions are important. As a result many of the properties of the system becomes universal. Here, we study the universal relation between the position of Efimov resonances for positive and negative scattering lengths with the goal of understanding current discrepancies between theory and experiment.

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