

Abstract Submitted
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***s*-wave resonant short-range interactions in a *d*-dimensional finite volume** SHANGGUO ZHU, SHINA TAN, Georgia Inst of Tech — It has been known that the energy spectra of few or many particles with short-range interactions in a finite periodic box are shifted according to the size of the box. In particular, the two-body interaction in a three-dimensional box is described by the Lüscher's formulas. Here we study the energy of one particle scattered by a resonant *s*-wave short-range center in a *d*-dimensional finite volume. When $d = 6$, this one-body problem is mapped to the scattering of three particles in a three-dimensional box with a resonant three-body interaction.

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