

Abstract Submitted
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Helium Halo Nuclei from Low-Momentum Interactions SONIA

BACCA, TRIUMF — The physics of the strong force gives rise to fascinating halo structures in light nuclei. A prominent example are the helium halo nuclei, He6 and He8, with a two- and a four-neutrons halo, respectively. In literature, several ab initio calculations of these nuclei are found, which are based on traditional potentials and include short-range phenomenology. Our goal is to describe properties of halo nuclei starting from forces derived within the modern approach of effective field theory, where two- and three-body forces among nucleons arise naturally and consistently with each other. Along the road to accomplish that, we present our theoretical approach to the study of He6 and He8 with low momentum interactions. Binding energies and radii will be discussed and compared to experimental data.

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