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Nota di contenuto	Essentials of non-relativistic scattering theory -- The three-body scattering problem -- Halo nuclei -- Efimov effect -- Effective field theories and universal properties of few body systems -- Concluding remarks.
Sommario/riassunto	This book presents an overview of the different few-body techniques developed in nuclear physics and their applications to explore the structural properties of neutron-rich unstable nuclei, the so-called halo nuclei. Formal theory of two- and three-body scattering are discussed in a compact and abridged form to initiate the beginners who want to investigate the problems of halo nuclei within the framework of three-body models. Readers gain in-depth knowledge about the methods involved to solve the two- and three-body scattering problem and a special focus is put on the Faddeev approach. In this sense, the authors address both the graduate students and senior researchers. Subsequently, a detailed analysis of the Efimov effect in three-body systems is presented and the search for the effect in atomic nuclei, both Borromean and non-Borromean is addressed. The book also presents a detailed account of how to analyze, within the framework of a 3-body approach and using realistic short range forces, the structural properties of halo nuclei. Finally, the authors discuss the recent progress in effective field theory by setting up the integral equations

for 3-body scattering and applying it to study low energy scattering of neutrons off halo nuclear targets.