

独立行政法人理化学研究所 仁科加速器研究センター 第143回RIBF核物理セミナー RIKEN Nishina Center for Accelerator Based Science The 143rd RIBF Nuclear Physics Seminar

Universal few-body physics with atoms

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Over the last few years, experiments with ultra-cold atoms have confirmed the universality of few-particle physics when these particles interact with a large scattering length. In particular, these experiments evidenced the Efimov effect, a universal three-body binding mechanism originally predicted 40 years ago in the context of nuclear physics. Although the universality of few-particle properties was confirmed, small non-universal deviations were also observed.

In this talk, I will present the Efimov effect, how it was observed experimentally with atoms, and our theoretical analysis of non-universal deviations found in the experiments.

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