

Abstract Submitted  
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**Finite Range Corrections in Few-Body Systems of Cold Atoms**

LUCAS PLATTER, Ohio State University — A non-relativistic three-body system with large two-body scattering length displays fascinating features, as for example discrete scale invariance in recombination and bound state observables. While the implications of zero-range interactions are well understood, it is also desirable to understand the impact of finite range corrections of the underlying interaction. This allows for an assessment of the limits of universality but also increases the range of applicability of universal approaches. I will discuss the calculation of range corrections within the framework of an effective field theory (EFT). This EFT allows for a model-independent and systematically improvable calculation of observables of few-body systems with large scattering length. I will present results for the Helium-4 trimer and will discuss applications of this formalism to the three-body recombination of identical boson.

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