

Abstract Submitted
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Atom-Dimer Coherence in Condensates of Strongly-Interacting Atoms¹ ERIC BRAATEN, Ohio State University — In a many-body system consisting of bosonic atoms with a large positive scattering length, atoms can flow coherently between coexisting Bose-Einstein condensates of atoms and weakly-bound dimers. A closed set of exact equations for the atom and dimer condensates can be rigorously derived using the one-particle-irreducible (1PI) effective action. Explicit approximate equations are obtained by truncating the 1PI effective action after the 2-body terms. Previous attempts to derive equations for atom-dimer coherence are critically examined.

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