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Three-Body Effects in a Zero-Scattering-Length Condensate LAWRENCE PHILLIPS, Heriot Watt University — When pairwise interactions between ultracold Bosons are set to zero using Feshbach resonance, the resulting condensate is well described by replacing the standard two-body contact interaction with a three-body pseudopotential and proceeding with Hartree-Fock theory in the usual way. We give a prescription for calculating the coupling constant appearing in the three-body pseudopotential, and use it to investigate the dependence of the zero-scattering-length dynamics upon the original two-body potential.

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