

Abstract Submitted
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Analytic descriptions of two atoms in a trap and around a magnetic Feshbach resonance¹ CONSTANTINOS MAKRIDES, MING LI, BO GAO, University of Toledo — We present an analytic description of two atoms in a trap and around a magnetic Feshbach resonance. It is achieved by combining a multiscale quantum-defect theory for two atoms in a symmetric harmonic trap², with a new analytic description of ultracold atomic interactions around a magnetic Feshbach resonance. The theory is applicable to both broad and narrow resonances, or anything in between, and is applicable to Feshbach resonances of arbitrary l . It will be illustrated for sample alkali-metal resonances of experimental interest.

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²Y. Chen and B. Gao, Phys. Rev. A **75**, 053601 (2007).

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