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Number of closed-channel molecules in the BEC-BCS crossover
FELIX WERNER, University of Massachusetts, LETICIA TARRUELL, ETH Zurich, YVAN CASTIN, Ecole Normale Supérieure — Using a two-channel model, we show that the number of closed-channel molecules in a two-component Fermi gas close to a Feshbach resonance is directly related to the derivative of the energy of the gas with respect to the inverse scattering length. We extract this quantity from the fixed-node Monte Carlo equation of state and we compare to the number of closed-channel molecules measured in the Rice experiment with lithium [Partridge et al., Phys. Rev. Lett. 95, 020404 (2005)].

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