

Abstract Submitted
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Radio frequency spectroscopy and the pairing gap in trapped Fermi gases¹ YAN HE, QIJIN CHEN, KATHRYN LEVIN, University of Chicago
— We present a theoretical interpretation of radio-frequency (RF) pairing gap experiments in trapped atomic Fermi gases, over the entire range of the BCS-BEC crossover, for temperatures above and below T_c . Our calculated RF excitation spectra, as well as the density profiles on which they are based, are in semi-quantitative agreement with experiment. We provide a detailed analysis of the physical origin of the two different peak features seen in RF spectra, one associated with nearly free atoms at the edge of the trap, and the other with (quasi-)bound fermion pairs. Reference: Phys Rev. A 72, 011602(R) (2005).

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