

Abstract Submitted
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Dissociation of Cooper pairs in the BCS Limit using an Oscillating Magnetic Field¹ ABHISHEK MOHAPATRA, D. HUDSON SMITH, ERIC BRAATEN, The Ohio State University — In a gas of ultracold fermionic atoms with two spin states, the scattering length can be controlled by using a Feshbach resonance. In the BCS limit, the interaction between a pair of atoms is weakly attractive and supports the formation of Cooper pairs. An oscillating magnetic field with frequency near the pairing gap can dissociate Cooper pairs into pairs of atoms. We calculate the transition rate for the dissociation process using a recently developed formalism that takes into account many-body effects through a transition matrix element of the contact operator. Our results can be used to make the first direct measurement of the pairing gap.

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