

Abstract Submitted  
for the MAR09 Meeting of  
The American Physical Society

**Non-Equilibrium Enhancement of Superfluidity in a Trapped Fermi Gas** ANDREW ROBERTSON, VICTOR GALITSKI, University of Maryland, College Park — In 1970, Eliashberg showed that superconductivity could be stimulated by pushing the quasiparticle spectrum out of equilibrium and to higher energies using a periodic perturbation with a frequency of the order of the superconducting gap (Eliashberg, JETP Lett. 11, 114 (1970)). This effect has been observed in thin films (TM Klapwijk et al. JLTP 26, 3-4 (1977)). The theory of this gap enhancement can be mapped onto a cold Fermi gas. We present here the theoretical framework for describing the stimulation of the BCS order parameter in an interacting Fermi gas by means of a periodic perturbation.

Andrew Robertson  
University of Maryland, College Park

Date submitted: 28 Nov 2008

Electronic form version 1.4