

Abstract Submitted
for the MAR12 Meeting of
The American Physical Society

Transport Coefficients of a Normal Fermi Gas at Unitarity HUA LI, KEVIN BEDELL, Boston College, JASON JACKIEWICZ, New Mexico State University — We studied the transport properties of a two component Fermi gas in the unitary limit. Transport coefficients of the Fermi gas are calculated in the extreme low-temperature limit. To calculate the transport coefficients we need the scattering amplitudes. The scattering amplitudes are calculated from the Landau parameters. These parameters are obtained from the local version of the induced interaction model for computing Landau parameters [1]. The leading order finite temperature corrections to the transport coefficients are also calculated [2]. The calculated temperature dependent spin diffusivity is compared with the experimental measurement. A minimum of the spin diffusivity with a value of order \hbar/m is observed at some finite temperature below the Fermi temperature.

Hua Li
Boston College

Date submitted: 21 Dec 2011

Electronic form version 1.4