

Abstract Submitted  
for the MAR14 Meeting of  
The American Physical Society

**Optical conductivity of clean-limit superconductor LiFeAs**

R.P.S.M. LOBO, ESPCI, CNRS, UPMC, France, A.V. PRONIN, Helmholtz-Zentrum Dresden-Rossendorf, Germany, G. CHANDA, J. WOSNITZA, Helmholtz-Zentrum Dresden-Rossendorf and Technische Universität Dresden, Germany, S. KASAHARA, T. SHIBAUCHI, Y. MATSUDA, Kyoto University, Japan — We present the optical conductivity of superconducting LiFeAs. In the superconducting state, the formation of the condensate leads to a spectral weight loss and yields a penetration depth of 215 nm. No sharp signature of the superconducting gap is observed. This suggests that the system is likely in the very clean limit. The normal state optical conductivity can be modeled through a Drude-Lorentz decomposition and allows to determine a quasiparticle scattering rate that evolves linearly with temperature.

Ricardo Lobo  
ESPCI

Date submitted: 18 Nov 2013

Electronic form version 1.4