Abstract Submitted
for the MAR10 Meeting of
The American Physical Society

Infrared conductivity of superconducting NbTiN in a magnetic field[1] D.B. TANNER, XIAOXIANG XI, University of Florida, J. HWANG, Pusan National University, G.L. CARR, NSLS, Brookhaven National Laboratory — The optical conductivity of thin-film $Nb_{0.5}Ti_{0.5}N$ in applied magnetic fields has been estimated from the results of far-infrared transmission and reflection measurements. The measurements were performed at the National Synchrotron Light Source, Brookhaven National Laboratory at fields up to 10 T. The combined measurements have been analyzed to give the real and imaginary parts of the conductivity. In turn, these quantities allow the magnetic-field dependence of the superconducting energy gap and the superfluid density to be estimated. The effect of pairbreaking by the field on the gap will be discussed.

[1]This research has been supported by the DOE through contracts DE-FG02-02ER45984 at Florida and DE-AC02-98CH10886 at BNL.

D.B. Tanner
University of Florida

Date submitted: 28 Nov 2009 Electronic form version 1.4