

Abstract Submitted  
for the MAR09 Meeting of  
The American Physical Society

**Quantum Oscillations in the Specific Heat of Ultraclean YBCO in 45T magnetic fields** SCOTT RIGGS, NHMFL/FSU, JON BETTS, LANL, SUCHITRA SEBASTIAN, Cambridge, NEIL HARRISON, ALBERT MIGLIORI, LANL, GREG BOEBINGER, NHMFL/FSU, RUIXING LIANG, WALTER HARDY, DOUG BONN, Simon Fraser University — We report specific heat measurements of Ortho-II YBCO in a magnetic field as large as 45T to directly compare the superconducting state with the normal state at low temperatures. This thermodynamic measurement of the electronic density of states determines the total number of carrier pockets in the two-dimensional Fermi surface of Ortho-II YBCO. These measurements also reveal quantum oscillations in the specific heat that provide a bulk measurement of the quasiparticle density of states in the d-wave mixed state.

Scott Riggs  
NHMFL/FSU

Date submitted: 20 Nov 2008

Electronic form version 1.4