

Abstract Submitted
for the MAR14 Meeting of
The American Physical Society

Nodal Fermi surface pocket approaching an optimal quantum critical point in YBCO SUCHITRA SEBASTIAN, BENG TAN, GILBERT LONZARICH, University of Cambridge, BRAD RAMSHAW, NEIL HARRISON, FEDOR BALAKIREV, CHUCK MIELKE, National High Magnetic Field Laboratory, Los Alamos, S. SABOK, B. DABROWSKI, Argonne National Laboratory, RUIXING LIANG, DOUG BONN, WALTER HARDY, University of British Columbia — I present new quantum oscillation measurements over the entire underdoped regime in $\text{YBa}_2\text{Cu}_3\text{O}_{6+x}$ and $\text{YBa}_2\text{Cu}_4\text{O}_8$ using ultra-high magnetic fields to destroy superconductivity and access the normal ground state. A robust small nodal Fermi surface created by charge order is found to extend over the entire underdoped range, exhibiting quantum critical signatures approaching optimal doping.

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Date submitted: 15 Nov 2013

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