

Abstract Submitted
for the MAR17 Meeting of
The American Physical Society

Electronic structure of high- T_c cuprates revealed by high-magnetic fields MUN CHAN, ERIC BAUER, ROSS MCDONALD, NEIL HARRISON, Los Alamos National Laboratory — The small reconstructed Fermi surface revealed by high-magnetic field quantum oscillation measurements in bilayer $\text{YBa}_2\text{Cu}_3\text{O}_{6+x}$ opened a path towards identifying broken symmetry states in underdoped cuprate superconductors. Recent quantum oscillations measurements on the structurally simpler $\text{HgBa}_2\text{CuO}_{4+d}$ indicate that the Fermi surface comprises only a single quasi-two dimensional pocket. These results suggests Fermi-surface reconstruction attributable to the charge-density-wave observed with other spectroscopic methods. However, the exact form of this charge-density-wave and its relationship to high- T_c superconductivity remains a pressing open question. We will present new insights into the low temperature electronic structure of the cuprates probed with electrical transport in magnetic fields up to 90T.

Mun Chan
Los Alamos National Laboratory

Date submitted: 11 Nov 2016

Electronic form version 1.4