

Abstract Submitted  
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**Fermi surface anisotropy in the cuprates** BRAD RAMSHAW, Los Alamos Natl Lab — Broken rotational ( $C_4$ ) symmetry is a distinguishing feature for a number of experiments in the underdoped high- $T_c$  cuprates, including electrical resistivity, neutron scattering, Nernst coefficient, and scanning tunneling microscopy. This broken symmetry has not been observed on the Fermi surface, however, with or without the presence of an applied magnetic field. We measure the angle-dependent magnetoresistance—a quantity known to be extremely sensitive to the geometry and symmetry of the Fermi surface—of  $\text{YBa}_2\text{Cu}_3\text{O}_{6.58}$ , and find that the Fermi surface has a clear two-fold symmetry, breaking the  $C_4$  symmetry of the copper-oxide plane. We discuss the implications of this finding, including how it fits with recent X-ray measurements in high magnetic fields.

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