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**Magnetic-field-induced stripe order and a 2D vortex glass phase in  $\text{La}_{1.905}\text{Ba}_{0.095}\text{CuO}_4$** <sup>1</sup> JOHN TRANQUADA, JINSHENG WEN, QING JIE, SU JUNG HAN, QIANG LI, MARKUS HUECKER, ZHIJUN XU, LIYUAN ZHANG, GENDA GU, Brookhaven Natl Lab, M.V. ZIMMERMANN, HASYLAB, D.K. SINGH, NCNR — We have measured the resistivity parallel and perpendicular to the  $\text{CuO}_2$  planes in  $\text{La}_{1.905}\text{Ba}_{0.095}\text{CuO}_4$  ( $T_c = 32$  K) as a function of perpendicular magnetic field. We have discovered a significant regime of field and temperature where the perpendicular resistivity is finite (and large) but the parallel resistivity is zero. This regime appears to correspond to a quasi-two-dimensional vortex glass phase, a state that theory predicts cannot exist at finite temperature. It seems to be stabilized by field-induced charge and spin stripe order, which we have detected with x-ray and neutron diffraction, respectively.

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