

Abstract Submitted
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Optical anisotropy of a cuprate high Tc superconductor¹ LI-UYAN ZHAO, California Institute of Technology, CARINA BELVIN, Wellesley College, RUIXING LIANG, WALTER HARDY, DOUG BONN, University of British Columbia, PETER ARMITAGE, Johns Hopkins University, DAVID HSIEH, California Institute of Technology — Evidence for a symmetry breaking phase transition across the pseudogap temperature T^* of cuprate high-Tc superconductors has been reported in several experiments. For example, resonant ultrasound spectroscopy reveals a discontinuous change in the normal mode frequencies of the lattice across T^* while spin-flip neutron scattering shows time reversal symmetry breaking across T^* . Recent THz spectroscopy measurements also suggest the loss of mirror symmetries in the vicinity of T^* . Optical anisotropy is in principle sensitive to the point group symmetries of a crystal and is highly complementary to the aforementioned techniques. I will present our progress in measuring and understanding the optical anisotropy of $\text{YBa}_2\text{Cu}_3\text{O}_y$ in the vicinity of its pseudogap transition temperature.

¹Optical anisotropy of a cuprate high Tc superconductor

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