Abstract Submitted
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Kerr effect as evidence of gyrotropic order in the cuprates[1] SRINIVAS RAGHU, PAVAN HOSUR, STEVEN KIVELSON, AHARON KAPITULNIK, Stanford University, JOSEPH ORENSTEIN, University of California, Berkeley — The Kerr effect can arise in a time-reversal invariant dissipative medium that is "gyrotropic", *i.e.* one that breaks spatial inversion and all mirror symmetries. Examples of such systems include electron analogs of cholesteric liquid crystals, and their descendants, such as systems with chiral charge ordering. We present arguments that the striking Kerr onset, *which is not invertible by application of a magnetic field*, in the pseudogap phase of a large number of cuprate high temperature superconductors is evidence of chiral charge ordering. We discuss additional experimental consequences of a phase transition to a gyrotropic system.

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