

Abstract Submitted
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Antiferromagnetism and charged vortices in high- T_c superconductors DANIEL KNAPP¹, McMaster University, CATHERINE KALLIN, McMaster University, AMIT GHOSAL, Duke University, SARAH MANSOUR, McMaster University — We present the results of a detailed mean-field study of the effect of the long-range Coulomb interaction on charge accumulation in antiferromagnetic vortices in high- T_c superconductors. We have found that antiferromagnetism is associated with an accumulation of charge in the vortex core, even in the presence of the long-range Coulomb interaction and that the local density of states in the vortex core, as described by a simple theory of competing d SC and AFM orders, is in excellent qualitative agreement with experimental data. We also touch on the manifestation of Π -triplet pairing in the presence of coexisting d SC and AFM order, and the intriguing appearance of one-dimensional stripe-like ordering.

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