Abstract Submitted
for the MAR06 Meeting of
The American Physical Society

Antiferromagnetic superconducting state in the electron-doped cuprates? TANMOY DAS, ROBERT S. MARKIEWICZ, ARUN BANSIL, Northeastern University — Recent angle-resolved photoemission (ARPES) studies of the electron-doped cuprate Nd$_{2-x}$Ce$_x$CuO$_4$ (NCCO)[1] have been interpreted in terms of a uniform antiferromagnetic (AF) metal, with doping into the upper magnetic band and gap collapse close to optimal doping[2]. An open question is whether the system remains uniform in the simultaneous presence of AF and (d-wave) superconducting (SC) order. Here, we explore the properties of a uniform AF-SC model for NCCO, to ascertain to what extent we can explain anomalous features, such as the nonmonotonic angle dependence of the superconducting gap[3]. Work supported by the USDOE.


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Date submitted: 01 Dec 2005

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