

Abstract Submitted
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Spin fluctuation pairing in the SDW state of electron-doped cuprates¹ WENYA ROWE, Department of Physics, University of Florida, Gainesville, FL, ILYA EREMIN, Institute für Theoretische Physik III, Ruhr-Universität Bochum, D-44801 Bochum, Germany, P. J. HIRSCHFELD, Department of Physics, University of Florida, Gainesville, FL — The proximity of the antiferromagnetic state is considered to give rise to superconductivity in systems such as electron doped cuprates and iron-pnictide materials. We generalize the spin bag theory proposed by Schrieffer et al², and investigate the effects on pairing of possible electron pockets and simultaneous electron and hole pockets. We also take into account the particle-hole excitations which arise from the itinerant nature of the system and the effects of next-nearest hopping. The contributions of the charge-fluctuation channel, amplitude and orientational spin-fluctuation channels to superconductivity will be discussed.

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²J. R. Schrieffer, X. G. Wen, and S. C. Zhang, “Dynamic spin fluctuations and the bag mechanism of high- T_c superconductivity,” Phys. Rev. B, 39, pp. 11663-11679 (1989).

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