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Effects of electron-phonon coupling on the d-wave pairing superconducting phase KA-MING TAM, Boston University, SHAN-WEN TSAI, University of California, Riverside, ANTONIO H. CASTRO NETO, DAVID K. CAMPBELL, Boston University — Recent experimental evidence has shown that the electron-phonon coupling could play a role in the formation of a d-wave pairing superconducting phase. Using a multiscale functional renormalization group (MFRG) technique, we study the effects of electron-phonon coupling in the two-dimensional Hubbard model with a band structure appropriate for the cuprate superconductors. We show that a momentum-independent electron- phonon coupling does not favor d-wave pairing but instead leads to the s-wave pairing and incommensurate density wave ordering.

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