

Abstract Submitted  
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**Superconducting pair-pair correlations in the half-filled Hubbard model on the anisotropic triangular lattice: absence of long-range order<sup>1</sup>**

S. DAYAL, R.T. CLAY, Mississippi State University, MS, S. MAZUMDAR, University of Arizona, AZ — We report calculations of superconducting pair-pair correlations for the half-filled band Hubbard model on an anisotropic triangular lattice using the path-integral renormalization group (PIRG) method. Mean-field studies have suggested that  $d_{x^2-y^2}$  superconductivity occurs near the boundary between metallic and antiferromagnetic phases in this model. We calculate bond orders, spin structure factors, and superconducting pair-pair correlations at zero temperature. Our results are consistent with previous studies of the metal-insulator transition and antiferromagnetism in this model. However, we do not find any parameter region where pair-pair correlations are enhanced by the Hubbard  $U$ , except for trivial enhancement of on-site correlations. The superconducting pair-pair correlations at larger distances decrease monotonically with increasing  $U$ , with a distance dependence approaching that of noninteracting fermions, indicating the absence of frustration-driven superconductivity within the model.

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