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**Strong diamagnetism in Cuprate** KAI-YU YANG, Institute of Theoretical Physics, ETHZ Zurich, T. M. RICE COLLABORATION, EVGENY KOZIK COLLABORATION — Strong diamagnetism signal in pseudogap state has been reported recently in torque magnetometry experiment. A boson-fermion model is established based on the anisotropy of the state in  $\mathbf{k}$ -space, i.e. cooperons on antinodes and holes on nodes, to study this phenomenon. An algorithm of continuous time diagrammatic determinant quantum monte carlo is developed to simulate this model. The renormalization of the cooperon's band gives arise to large diamagnetism in agreement with experiments.

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