

Abstract Submitted
for the MAR05 Meeting of
The American Physical Society

Probing the Pseudogap for an Algebraic Spin Liquid MICHAEL HERMELE, UCSB, T. SENTHIL, MIT, MATTHEW P. A. FISHER, KITP, UCSB — Algebraic spin liquids [1] are two-dimensional Mott insulators where the spin sector is in an interacting critical state. One such state, the staggered-flux spin liquid, has been argued to play a key role in the pseudogap regime of the underdoped cuprate superconductors [2,3]. We find that the staggered-flux state supports a variety of slowly-fluctuating competing orders, unified by an emergent $SU(4)$ symmetry. Among these orders are the Neel vector and the order parameter for a columnar valence-bond solid. This structure may have important observable consequences for the rather high-temperature physics of the pseudogap regime. 1. W. Rantner and X.-G. Wen, PRL 86, 3871 (2001). 2. X.-G. Wen and P. A. Lee, PRL 76, 503 (1996). 3. T. Senthil and P. A. Lee, cond-mat/0406066.

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Date submitted: 01 Dec 2004

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