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.

Michael Hermele
UCSB

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