Abstract Submitted
for the MAR08 Meeting of
The American Physical Society

**Universal dispersion anomalies revealed by DQMC simulations of the Hubbard model** B. MORITZ, SLAC, S. JOHNSTON, U. Waterloo, W. MEEVASANA, Stanford U., C. KIM, Yonsei U., T. P. DEVEREAUX, Stanford U. and SLAC, R. T. SCALETTAR, UC Davis, Z.-X. SHEN, Stanford U. and SLAC — The recent observation of a "high energy anomaly" (HEA) in hole-doped high-Tc compounds, as well as the half-filled parent insulators, using angle-resolved photoemission spectroscopy (ARPES) has sparked a great deal of interest and intense theoretical and experimental investigations. Using determinant quantum Monte Carlo (DQMC) and maximum entropy analytic continuation (MEM), we investigate the existence of the HEA in the single-band Hubbard model. The spectral functions obtained from the simulations reveal a universal HEA across the doping spectrum, similar to that seen in experiment. This signals a cross-over from a quasiparticle-like band at low energy to the incoherent lower Hubbard band at higher energy. A comparison of the self-energy obtained from simulation to that extracted from experiment serves as a further llustration of the similarities. In addition, we perform simulations of the single-band Hubbard model on the electron-doped side of the phase diagram and compare and contrast our results to existing experimental evidence and comment on the possibility that future experiments would find a universal HEA in electron-doped compounds.

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Date submitted: 27 Nov 2007 Electronic form version 1.4