Abstract Submitted
for the MAR08 Meeting of
The American Physical Society

Stripes and Bubbles in the N=2 Landau Level: A DMRG Study
BARRY FRIEDMAN, LAUREN ROD, CANDICE WITHROW, Department of Physics, Sam Houston State University — The phase diagram of the N=2 Landau level has been reexamined using the density matrix renormalization group (dmrg). Very good agreement at filling factor 18/42 has been attained with previous dmrg calculations of Shibata and Yoshioka by using 200 states in the blocks. Near 1/2 filling, we have studied whether the ground state is an anisotropic crystal, suggested by some mean field approaches, or a stripe state, as suggested by other mean field approaches and previous dmrg results. Previous dmrg calculations, i.e. Shibata and Yoshioka, have placed the phase diagram between stripes and bubbles at a filling factor slightly less then .4 by looking at the projected pair correlation function at the special lines x=0 and y=0. We reexamine this boundary by studying the Fourier transform of the projected pair correlation.

Barry Friedman
Sam Houston State University

Date submitted: 27 Nov 2007 Electronic form version 1.4