Abstract Submitted
for the MAR10 Meeting of
The American Physical Society

Phase Diagram of the Bosonic 2D Coulomb System BRYAN CLARK, Princeton Center for Theoretical Science, MICHELE CASULA, Centre de Physique Theorique, Ecole Polytechnique, DAVID CEPERLEY, Dept. of Physics, UIUC; NCSA — The system of particles in two-dimensions which interact with the long range Coulomb potential is an important model for condensed matter. This system potentially supports a rich phase diagram including hexatic and mesoscopic phases (stripes, bubbles, etc). In this talk we will extend our recent work on the distinguishable particles to a system with Bosons. We explore how the superfluid phase intersects the hexatic and Wigner crystal region and how the introduction of statistics affects conclusions about the presence of mesoscopic phases.

Bryan Clark
Princeton Center for Theoretical Science

Date submitted: 20 Nov 2009 Electronic form version 1.4