Density Fluctuations in a 2D Bose gas near Feshbach resonance
ERIC L. HAZLETT, LI-CHUNG HA, LOGAN W. CLARK, CHENG CHIN, University of Chicago — Here we report our progress towards using the local fluctuations determined from the in-situ density profiles of a 2D gas to determine its local properties. This allows for a method to determine the distribution of temperature and chemical potential regardless of the geometry of the trapping potential. This technique will provide a generic probe to characterize non-equilibrium systems, and allow for a complete characterization of the transport phenomena. Near a Feshbach resonance, the density fluctuations may also offer new insight into the universal behavior of unitary Bose gas.