

Abstract Submitted
for the OSS15 Meeting of
The American Physical Society

Exploration of stable, metastable and unstable configuration states of dust clusters ANDREW A. KURTZ, T.E. SHERIDAN, Ohio Northern University — A small number of identical dust particles are confined in a two-dimensional biharmonic well inside an electron-ion plasma. In steady state, the dust particles form a strongly-coupled elliptical cluster. Clusters are heated by a quick change in the plasma density and then cool rapidly, leading to configuration states that may be stable, metastable or unstable. We directly observe the relaxation of unstable states to equilibria. We will compare observed configuration states to computed states and look for qualitatively different regimes as a function of dust particle number and potential well anisotropy.

Terrence Sheridan
Ohio Northern University

Date submitted: 06 Mar 2015

Electronic form version 1.4