

Abstract Submitted
for the DPP12 Meeting of
The American Physical Society

Experimental Determination of Horizontal Confinement Within a Glass Box in a GEC RF Reference Cell ANGELA DOUGLASS, Ouachita Baptist University, CASPER Baylor University, ROBERT MOORE, LORIN MATTHEWS, TRUELL HYDE, CASPER Baylor University — Recent experiments have demonstrated that new and interesting phenomena are observed when dust particles are confined within a glass box in a GEC RF reference cell. The addition of the glass box to the lower, powered electrode of the cell allows for the formation of structures such as Coulomb balls or single, one-dimensional vertical chains. While many experiments have been performed on these structures, little is known about the horizontal confinement created by the glass box. In this experiment, a single particle was perturbed with a laser in order to characterize the horizontal confinement due to the glass box. The shape of the confinement will be presented for various plasma powers, pressures, and heights above the lower electrode.

Angela Douglass
Ouachita Baptist University, CASPER Baylor University

Date submitted: 13 Jul 2012

Electronic form version 1.4