Abstract Submitted
for the DFD13 Meeting of
The American Physical Society

Plastic and Elastic Deformations of Foam Bubbles Driven by Oscillatory Compression[1] KLEBERT FEITOSA, NICHOLAS HAGANS, CHRISTINE O'DEA, Dept. of Physics and Astronomy, James Madison University — Fluidization of two-dimensional (2D) foam is characterized by rearrangement events known as T1-events where clusters of four bubbles switch neighbors. This research focus on rearrangement events of bubbles in a bubble raft subject to periodic compression by an oscillating boundary. The instantaneous position of the bubbles are tracked from images of the bubble raft captured with a high speed camera. We find that T1-events are reversible for small amplitude oscillations (elastic deformations), but irreversible for large amplitude oscillations (plastic deformations). We also find that T1 events are spatially correlated confirming that such rearrangements leads to local fluidization.

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Date submitted: 02 Aug 2013 Electronic form version 1.4