

Abstract Submitted  
for the OSS11 Meeting of  
The American Physical Society

**Preliminary results on two-dimensional diffusion in dusty plasma**

DONALD PLESHINGER, W.L. THEISEN, T.E. SHERIDAN, Ohio Northern University — We investigate self diffusion of particles in two dimensions (2D) using a dusty (complex) plasma. A 2D liquid containing  $\sim 100$  particles is formed at the center of, and heated by, a toroidal gas of dust particles. The motions of individual dust particles are capturing using a video camera, allowing diffusion to be directly observed. This system will be characterized and the diffusion constant determined.

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Date submitted: 24 Feb 2011

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