

Abstract Submitted  
for the OSS10 Meeting of  
The American Physical Society

**A dusty plasma 1-ring to rule them all** T.E. SHERIDAN, JAMES C. GALLAGHER, Ohio Northern University — One-dimensional and quasi-one-dimensional strongly-coupled dusty plasma rings have been created experimentally in the DONUT (Dusty ONU experiment) apparatus. Longitudinal (acoustic) and transverse (optical) dispersion relations for the 1-ring were measured and found to be in very good agreement with the theory for an unbounded straight chain of particles interacting through a Yukawa (i.e., screened Coulomb or Debye-Hückel) potential. These rings provide a new system in which to study one-dimensional and quasi-one-dimensional physics.

Terrence Sheridan  
Ohio Northern University

Date submitted: 31 Mar 2010

Electronic form version 1.4