

Abstract Submitted  
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**Using ion flows parallel and perpendicular to gravity to modify dust acoustic waves**<sup>1</sup> E. THOMAS, R. FISHER, Auburn University — Recent studies of dust acoustic waves have shown that the dust kinetic temperature can play an important role in determining the resulting dispersion relation [M. Rosenberg, et al., Phys. Plasmas, 15, 073701 (2008)]. In these studies, it is believed that ion flows play a dominant role in determining both the kinetic temperature of the charged microparticles as well as providing the source of energy for triggering the waves. In this presentation, results will be presented on the effects of ion flow on spatial structure and velocity distribution of dust acoustic waves. Here, the waves will be formed in dusty plasmas consisting of  $3 \pm 1$  micron diameter silica microspheres. Two separate electrodes will be used to modify the ion flow in the plasma – one parallel to the direction of gravity and one perpendicular to the direction of gravity. Particle image velocimetry (PIV) techniques will be used to observe the particles and to measure their velocity distributions.

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