

Abstract Submitted  
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**Ion Acoustic Waves in Ultracold Neutral Plasmas** JOSE CASTRO, PATRICK MCQUILLEN, THOMAS KILLIAN, Rice University — Ion acoustic waves were observed in Strontium Ultracold Neutral Plasmas (UNP) through fluorescence imaging of the Sr ions. Ion acoustic waves were excited on the plasma by imprinting modulations on the density distribution with a periodic transmission grating placed along the path of the ionization beam. Fluorescence images show the presence of density waves on the plasma and spatially-resolved fluorescence spectra show oscillations in the velocity distribution of the ions. The dispersion relation and effect of strong coupling will be discussed.

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