

Abstract Submitted
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Fluorescence Imaging of Ultracold Neutral Plasmas JOSE CASTRO, HONG GAO, THOMAS KILLIAN, Rice University — Spatially-resolved fluorescence imaging of Ultracold Neutral Plasmas (UNP) produces a spectrum that is Doppler-broadened due to the thermal ion velocity and shifted due to the ion expansion velocity. Furthermore, sheet excitation of the plasma allows for localized analysis of the system without density variation. Using this technique, adiabatic cooling, electron-ion collisions, kinetic energy oscillations and velocity-changing collisions are studied for Ultracold Neutral Plasmas.

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