

Abstract Submitted  
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**One-Dimensional Cooling of an Ultracold Neutral Strontium Plasma** CLAYTON SIMIEN<sup>1</sup>, PRIYA GUPTA<sup>2</sup>, SAMPAD LAHA<sup>3</sup>, THOMAS KILLIAN<sup>4</sup>, Rice University — The application of laser cooling to neutral plasmas opens a wide range of experimental possibilities. This would be a new method of plasma confinement. Trapped plasma can be stored for longer times enabling detailed investigations of strong coupling, recombination at ultracold temperatures, and ion-ion thermalization. Recently, the ultracold plasma group at Rice has developed a high power laser source capable of laser cooling an ultracold neutral strontium plasma. Preliminary results on one-dimensional laser cooling of the plasma will be presented.

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