

Abstract Submitted  
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**Thermalization in strongly coupled dual species plasma expansions**<sup>1</sup> TUCKER SPRENKLE, ROSS SPENCER, SCOTT BERGESON, Brigham Young University — We report measurements of ion temperature evolution in a dual-species ultracold neutral plasma. The plasma is created by photo-ionizing laser-cooled Yb and Ca atoms in a MOT. As this strongly-coupled plasma expands, we use spatially-resolved imaging to measure the expansion velocity, density, and ion temperature as a function of time. The plasma reaches a partial thermal equilibrium, depending on the relative Ca/Yb density ratio. We compare our measurements with a 1D radial fluid code and find significant discrepancies in the temperature and density evolution.

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