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Equilibration rates in a dual-species ultracold neutral Ca/Yb plasma[1] TUCKER SPRENKLE, ADAM DODSON, QUIN MCKNIGHT, SCOTT BERGESON, Brigham Young University — We study energy relaxation in a strongly-coupled neutral plasma of calcium and ytterbium ions at temperatures near 1 K. The ion temperature is determined by disorder-induced heating, and denser plasmas have higher temperatures. The electron temperature is determined by the wavelength of the ionizing laser, and is typically 20 to 200 K. We control the plasma stoichiometry and overall plasma density in order to vary the temperatures of the two ion species. We control the electron temperature to adjust the electron screening length and the plasma expansion rate. We will present measurements of energy relaxation rates in this mixed-species plasma.

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Scott Bergeson
Brigham Young University

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