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Dual-Species Ultracold Neutral Plasma[1] DANIEL WOODBURY, ALEX ERIKSON, SCOTT BERGESON, Brigham Young University — We present the design and characterization of a dual species Ca/Yb 2D/3D MOT. This setup allows us to create a mixed calcium and ytterbium ultracold neutral plasma to study transport mechanisms in a strongly coupled environment. This system is an analogue to electron-ion transport, that is not readily understood in dense plasmas. We report on the creation and optimization of the dual species trap and preliminary results for separate calcium and ytterbium plasma. These results demonstrate a robust method for trapping a large number of atoms in the trap and creating a dual-species plasma.

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