Recent Experiments in Ultracold Strontium\textsuperscript{1} SARAH NAGEL, YENNY MARTINEZ, PASCAL MICKELSON, THOMAS KILLIAN, Rice University — We present recent work toward achieving quantum degeneracy in Strontium. In the first stage of cooling, a MOT operating on the strong ($\Gamma = (2\pi)^* 32 \text{ MHz}$), $^{1}S_0 \rightarrow ^{1}P_1$ transition cools $10^8$ atoms to 2 mK. Approximately 50\% of these atoms are transferred to a second-stage MOT operating on the weaker ($\Gamma = (2\pi)^* 7.5 \text{ kHz}$) $^{1}S_0 \rightarrow ^{3}P_1$ intercombination transition, further cooling the sample to 5 $\mu$K. Here we discuss transferring this sample to an optical dipole trap and using evaporative cooling techniques to reach quantum degeneracy.

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