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A Fermi Mixture of ^6Li and ^{40}K[1] T.G. TIECKE, A. LUDEWIG, S.D. GENSEMER, J.T.M. WALRAVEN, University of Amsterdam — We report on our progress in the construction of a new apparatus for the simultaneous cooling of the Fermionic alkali isotopes ^6Li and ^{40}K. Our goal is to cool the mixture to degeneracy and search for novel pairing mechanisms involving Fermions of different masses. We have constructed, for the first time, a 2-D MOT source of cold Li atoms directly loaded from a thermal source, thereby circumventing the need for a Zeeman slower. The 2-D MOT is loaded from an effusive Li oven source and the trapping light is derived from a YAG-pumped dye laser. Atoms captured from the 400C thermal beam are clearly visible trapped in two dimensions by the four intersecting MOT beams. Furthermore we have constructed and realized a 2-D MOT for ^{40}K and a double recapture MOT mixing both species. We plan to soon start loading the mixture into an optically plugged magnetic trap for evaporative cooling.

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