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Ultracold Fermionic gases of Li atoms and LiNa molecules CALEB CHRISTENSEN, JAE CHOI, YE-RYOUNG LEE, GYU-BOONG JO, WOLFGANG KETTERLE, DAVE PRITCHARD, Massachusetts Institute of Technology — We present recent data on the stability and basic properties of ultracold gases of ^6Li and ^{23}Na , including fermionic LiNa molecules. A cold, dense mixture of atoms is produced in an IR optical dipole trap. The magnetic field is brought to the vicinity of Feshbach resonances, and short lived states are populated by driving RF transitions from noninteracting to interacting states. Absorption imaging of the atoms is used to study the formation and lifetime of Feshbach molecules. We also present recent work on the potential for a ferromagnetic state of a gas of lithium atoms.

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