Abstract Submitted
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Observation of Feshbach resonances in the collisions of ultracold lithium-6 and cesium-133 atoms SHIH-KUANG TUNG, JACOB JOHANSEN, KARINA JIMENEZ-GARCIA, COLIN PARKER, CHENG CHIN, The University of Chicago — Heteronuclear mixtures provide new degrees of freedom for ultracold atom experiments. Among them, a fermionic ^{6}Li - bosonic ^{133}Cs mixture is an excellent candidate to explore new quantum phases, perform independent optical manipulations of the two species, and study universal few-body physics. Here we report the experimental and theoretical study of two-body interaction in this mixture. We identify five *s*-wave interspecies Feshbach resonances with a magnetic field below 1000G [1]. Finally, we report experimental progress toward dual quantum degeneracy of Li and Cs atoms.

[1] S. Tung, C. Parker, J. Johansen, C. Chin, Y. Wang, and P. Julienne, Phys. Rev. A 87, 010702(R) (2013).

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