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**Experimental Progress in a  ${}^6\text{Li}$ - ${}^{133}\text{Cs}$  Atomic Mixture** LEI FENG, JACOB JOHANSEN, COLIN PARKER, CHENG CHIN, The James Franck Institute, The Enrico Fermi Institute, and Department of Physics, The University of Chicago, Chicago, Illinois 60637, USA — We report experimental progress in a mixture of  ${}^6\text{Li}$  and  ${}^{133}\text{Cs}$ . The mass imbalance of this system results in a particular challenge, as gravity has a significant influence on Cs position, but not on Li, separating the two gases at temperatures on the order of 200 nK. We overcome this difficulty using a two color optical dipole trap. We demonstrate mixing of these species below 100 nK in preparation for studies of quantum degenerate mixtures of this system. We further report on progress toward degeneracy and many-body physics measurements in this trap. Finally, we consider Efimov physics in this system, studying the effects of Cs-Cs interaction on the spectrum of LiCsCs trimers by a comparison of Feshbach resonances at 843 and 889 G. This work is supported by NSF and Chicago MRSEC.

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