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**Low energy scattering properties in cold Lithium-7 and Rubidium-87 mixtures** FANG FANG, JOSHUA ISAACS, AARON SMULL, SHUN WU, DAN STAMPER-KURN, University of California, Berkeley — We report measurements of interspecies interaction strength between Lithium-7 and Rubidium-87, both in spherical quadruple magnetic trap and in optical dipole trap. In the former case, we present measurements of equilibration rates for lithium-7 in Rubidium-87 reservoir undergoing cross-dimensional relaxation. Thanks to the high mass imbalance between Li and Rb, as well as the non-ergodicity nature of spherical quadruple trap, we are able to measure the small inter-species cross section at a collisional energy of hundreds of micro-Kelvin. In the latter case, we measure the spin-dependent interaction in the cold mixture trapped in a spin-independent optical dipole trap at a collisional energy of tens of micro-Kelvin. In the end, we will present our progress towards a new apparatus for Lithium-7 and Rubidium-87 ultracold molecule.

Fang Fang  
University of California, Berkeley

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