

Abstract Submitted
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Towards ultracold Li Cs mixtures on an atom chip ASAF PARIS-MANDOKI, SONALI WARRIAR, MATT JONES, JONATHAN NUTE, PETER KRÜGER, LUCIA HACKERMÜLLER, University of Nottingham — Ultracold mixtures hold the promise of understanding new phases of matter and collisions at very low energies. By combining the capabilities of the atom chip with optical dipole trapping, it will be possible to trap these mixtures in low dimensions and tune their scattering lengths via Feshbach resonances. In this way it will also be possible to realise experiments with additional magnetic potentials, position dependent interactions or impurity dynamics. Here we present the current status of our Lithium and Cesium experiment. We detail the cooling schemes for both atom species and include the recent development of implementing an optical dipole trap. We discuss ideas for future measurements with separately addressable Bose-Fermi mixtures in optical dipole traps, such as transport and impurity studies in low dimensions, close to a chip surface.

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