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**Detecting Na+Cs Feshbach resonances in optical tweezers** JESSIE T. ZHANG, YEN-WEI LIN, ELIOT F. FENTON, TILL ROSEN BAND, KANG-KUEN NI, Harvard University — NaCs features one of the largest electric dipole moments (4.6D) in the bi-alkali molecules and is consequently a promising candidate for studies in quantum simulation and computation. Interspecies Feshbach resonances between Na and Cs have previously been predicted and could potentially be utilized to create NaCs Feshbach molecules as an intermediate step towards creating ground-state NaCs molecules. In this talk I will present the detection of Feshbach resonances between Na and Cs with exactly two or three atoms prepared in a single optical tweezer. This experimental approach provides a clean method to study ultracold collisions and few-body physics with fine quantum control and also paves the way to coherently create single ground-state NaCs molecules in optical tweezers starting from single Na and Cs atoms.

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