

Abstract Submitted  
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**Progress toward ultracold sodium-cesium molecules**<sup>1</sup> ADEN LAM, NICCOLO' BIGAGLI, CLAIRE WARNER, IAN STEVENSON, SEBASTIAN WILL, Columbia University — We present work toward a dipolar quantum gas of sodium-cesium molecules in their ground state. Sodium-cesium has the largest dipole moment of the non-reactive bi-alkali molecules, 4.6 Debye, which promises to enable strongly correlated many-body quantum states. So far, sodium and cesium have not been simultaneously cooled to quantum degeneracy. We present our progress toward overlapping ultracold ensembles of sodium and cesium atoms, which includes the creation of overlapping magneto-optical traps and the development of a simultaneous cooling strategy. Additionally, we report on preliminary studies of interspecies Feshbach resonances between ultracold sodium and cesium atoms which is a key step in creating a molecular quantum gas, including the exploration of a loosely bound molecular state in the closed channel of a Feshbach resonance.

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