

Abstract Submitted  
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**Progress toward ultracold quantum gases of sodium-cesium molecules**<sup>1</sup> IAN STEVENSON, ADEN LAM, CLAIRE WARNER, NICCOLO BIGAGLI, SEBASTIAN WILL, Columbia University — We present work towards a dipolar quantum gas of sodium-cesium (NaCs) molecules in their absolute ground state. NaCs stands out because it has the largest dipole moment, 4.6 Debye, of the non-reactive bi-alkali molecules and it is predicted to have optical transitions that can be used for ground state transfer via Stimulated-Raman-Adiabatic-Passage (STIRAP) accessible via diode lasers. We report on progress along a path to dual species condensation and eventually ground state molecules. Finally, to explore strongly dipolar physics, our work looks to combine recent advances in tailored optical potentials with NaCs molecules under large electric fields; specifically, we seek to create a homogeneous two-dimensional system using a digital micromirror device (DMD) for molecules and study dipolar crystals.

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