

Abstract for an Invited Paper  
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**Production and Trapping of Ultracold Polar RbCs Molecules<sup>1</sup>**

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Our group has recently demonstrated the ability to assemble ultracold, polar molecules from laser-cooled atoms. We use photoassociation followed by stimulated emission pumping to produce RbCs molecules in their absolute ground state, at temperatures  $T \sim 100\mu\text{K}$ . In recent work, we have moved towards the goal of accumulated large, high-density samples of ultracold RbCs. Here we present new results on the trapping and collisional properties of RbCs in levels of high vibrational excitation.

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