

Abstract Submitted
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Photoassociation spectroscopy enhanced by optical pumping

MAREK HARUZA, MAITREYI JAYASEELAN, NICHOLAS BIGELOW, University of Rochester — We present our results from photoassociation (PA) spectroscopy of ultracold polar NaCs molecules enhanced through the use of our optical pumping (OP) technique. PA produces molecules in a range of vibrational levels in both the singlet and triplet electronic states, which are then detected through resonant multi-photon ionization (REMPI) of a chosen vibrational level. OP has been shown to transfer population from both the singlet and triplet states very efficiently to the singlet rovibrational ground state, thus making potentially all the molecules accessible with a single REMPI detection line. We use this technique to search for missing PA lines and enhance existing ones.

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