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Producing and Trapping cold molecular NO PARSHURAM DAHAL, BRYAN BICHSEL, JASON ALEXANDER, JAMES COKER, JOHN FURNEAUX, MICHAEL MORRISON, NEIL SHAFER-RAY, ERIC ABRAHAM, Homer L. Dodge Department of Physics and Astronomy The University of Oklahoma — We present the production of cold samples of Nitric Oxide (NO) in the lowest ro-vibrational state. The sample is produced by the extraction of the cold fraction of the Maxwell – Boltzman distribution of a thermal source. The temperature of the resulting gas (T $\sim$ 2 K) is measured by electric field stabilized, Rydberg time-of-flight. Results of a new source for cold molecular production using activated carbon is presented, which may eliminate the need for ablation loading in buffer gas cooling experiments. Progress toward magnetically trapping NO will be discussed.

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