

Abstract Submitted
for the DAMOP11 Meeting of
The American Physical Society

Towards magnetic trapping of CaH MATTHEW WRIGHT, Harvard University, HSIN-I LU, JULIA RASMUSSEN, DAVE PATTERSON, JOHN DOYLE — We propose a general technique to load molecules from a cryogenic buffer-gas cooled beam into a magnetic trap. The technique uses one or two optical pumping stages (one photon absorbed per stage per molecule) to continuously and irreversibly load the trap from a slow beam. The method is general and does not rely on unusual level structures or closed transitions. As a step toward this goal, we have demonstrated an intense, cold molecular beam source of CaH. The beam consists of approximately 10^9 molecules moving in a nearly effusive source under 3K. We will discuss progress towards magnetically guiding the molecules to provide a clean, state-selected beam source. The technique is expected to allow the observation of collisions, and consequent cooling in an extremely high vacuum environment.

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Date submitted: 27 Jan 2011

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