Abstract Submitted
for the 4CF17 Meeting of
The American Physical Society

Cold Hydroxyl Radicals[1] DAVID REENS, HAO WU, Univ of Colorado - Boulder, TIM LANGEN, Universitat Stuttgart, JUN YE, JILA, Univ of Colorado / NIST — With the goal of studying hydroxyl radicals in the ultracold regime typically attained with alkali atoms, we are pursuing evaporative cooling of a 50 mK trapped sample decelerated from a molecular beam. Along the way we have identified and mitigated an unusual trap loss process relating to the internal dynamics of the molecules in external electric and magnetic fields. We are also working at the forefront of molecular beam technology in order to maximize the initial density of the trapped sample for successful evaporation, and we hope to bring a new system online at the end of this year.

[1]We acknowledge the NSF, the DOE, and the Gordon and Betty Moore Foundation.

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Date submitted: 21 Sep 2017 Electronic form version 1.4