

Abstract Submitted
for the DAMOP11 Meeting of
The American Physical Society

Recent data on a new method for producing ultracold molecular ions¹ WADE RELLERGERT, SCOTT SULLIVAN, KUANG CHEN, STEVEN SCHOWALTER, ERIC HUDSON, UCLA — We present recent data from our experimental effort to produce ultracold, internal ground-state BaCl^+ ions using a Ca MOT. The method utilizes sympathetic cooling due to the strong collisions between co-trapped molecular ions and laser-cooled neutral atoms which should efficiently cool both the internal and external molecular ion degrees of freedom. Samples of such ultracold molecular ions find applications in ultracold chemistry, precision measurement and quantum computation.

¹This work is funded by the National Science Foundation

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Date submitted: 04 Feb 2011

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