Abstract Submitted
for the DAMOP09 Meeting of
The American Physical Society

Characterization of LIAD loaded sodium MOT TETSUYA ISHIKAWA, MATTHEW GIBBS, GUSTAVO TELLES, CHANDRA RAMAN, Georgia Institute of Technology — We present a compact ultrahigh vacuum (UHV) vapor cell for magneto-optical trapping (MOT) of sodium atoms. Our system features light-induced atomic desorption (LIAD) loading. LIAD at short wavelengths (375 nm and 455 nm) was used, allowing for fast switching and control of the sodium vapor pressure. We have used a single laser beam which passes through an electro-optic modulator to provide repump light and then splits into three retro-reflected beams to create a 50 million atom MOT. Our results are in good agreement with the model presented on [1,2] and demonstrate the utility of vapor cell MOTs for ultracold experiments using atomic sodium.

1. C. Monroe et al., Phys. Rev. Lett. 65, 1571 (1990);
2. S. Bartalini et al., Eur. Phys. J. D 36, 101 (2005)

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Date submitted: 27 Jan 2009 Electronic form version 1.4