

Abstract Submitted
for the DAMOP10 Meeting of
The American Physical Society

Magnetic Control of Atomic Motion TOM MAZUR, TRAVIS BANNERMAN, ISAAC CHAVEZ, ROB CLARK, ADAM LIBSON, MARK RAIZEN, Department of Physics and Center for Nonlinear Dynamics, University of Texas at Austin — Using a sequence of pulsed electromagnetic coils, known as the atomic coilgun, we slowed supersonic beams of atomic neon and molecular oxygen. We report our progress toward adapting the atomic coilgun for magnetically trapping hydrogen isotopes. This work has motivated us to investigate other methods for magnetic control of atomic motion. We describe these techniques, and present calculations suggesting their utility in controlling atomic motion. We then outline our plans for using these methods in certain applications.

Tom Mazur
Department of Physics and Center for Nonlinear Dynamics,
University of Texas at Austin

Date submitted: 25 Jan 2010

Electronic form version 1.4