Abstract Submitted
for the DAMOP20 Meeting of
The American Physical Society

Magneto-optical trapping with complicated level structures and geometries ERIC NORRGARD, National Institute of Standards and Technology, STEPHEN ECKEL, NIST — As interest grows in miniaturization of atomic physics packages, tetrahedral and tetrahedral-like MOTs have received renewed interest, in part because of the advent of nanofabricated diffraction gratings. The grating MOT takes a single, incident laser beam and uses a diffraction grating to produce at least three more beams necessary to form a tetrahedral-like MOT. This simplified setup may prove vital toward miniaturization efforts, such as simplified chip-scale MOTS with a large grating coupler and custom diffraction grating to produce the necessary beams. We investigate the effects of level structure and trapping geometry on MOT parameters.

Eric Norrgard
University of Maryland, JQI, NIST

Date submitted: 31 Jan 2020 Electronic form version 1.4