

Abstract Submitted
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Bichromatic transverse cooling and guiding in hollow beams

FRANK A. NARDUCCI, Naval Air Systems Command — Optical guiding of atoms, especially in hollow core fibers, usually consists of a far off resonant field so that the effects of spontaneous emission can be minimized yet the dipole force can be utilized. However, bichromatic fields driving coherent population trapping can shut off the spontaneous emission. In this paper, I analyze the possibility of using bichromatic fields for transverse cooling, confinement and guiding in hollow light tubes and compare the results to the single field case. Experimental progress will be discussed.

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