

Abstract Submitted
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Characterization of a Rubidium Magneto-Optical Trap WEI WEN YU, BRAD CROCHET, GREGORY CARSON, ALINA GEARBA, Department of Physics and Astronomy, University of Southern Mississippi, Hattiesburg, MS 39406 — Recently at the University of Southern Mississippi, rubidium atoms were cooled and trapped in a standard magneto-optical trap (MOT). A systematic characterization of the rubidium MOT in terms of the total number of trapped atoms versus several laser intensities, laser detunings, and magnetic field gradients is currently under way. The total amount of fluorescence emitted by the cold atoms is measured with a calibrated photodetector subtending a known solid angle, while a high-speed video camera connected to a computer via an image acquisition board is used to monitor the size and the shape of the atomic cloud. The first experimental results will be presented at the meeting.

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