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Two Dimensional Grating Magneto Optical Trap in ^{87}Rb ¹ ERIC IMHOF, Utah State Univ, BETHANY KROESE, MATTHEW SQUIRES, U.S. Air Force — We demonstrate an enhanced two dimensional grating magneto optical trap with a single input beam and a planar diffraction grating. This configuration allows for an increase in experimental access when compared with a traditional two beam 2D MOT. We find a flux $>4 \times 10^8$ rubidium atoms/s at a mean velocity of 18 m/s. The velocity distribution has a 3 m/s standard deviation. We use the atomic beam to load a three dimensional grating MOT with 2×10^8 atoms. Methods to improve flux output will be discussed.

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Eric Imhof
Utah State Univ

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