

Abstract Submitted
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Influence of Optical Molasses in the Loading of a Shallow Optical Trap¹ MATHEW HAMILTON, ANTHONY GORGES, JACOB ROBERTS, Colorado State University — We have compared loading ^{85}Rb atoms into a shallow far-off-resonance trap (FORT) from an optical molasses stage following a magneto-optical trap (MOT) stage with loading from a MOT stage only. Examination of the rate of atoms loaded into the FORT as well as the losses from the FORT during both loading processes over a range of detunings and hyperfine pump powers reveals that losses during both are essentially the same. The load rate however, is different enough that the number of atoms which we can trap is improved by a factor of 2 using an optimized sequence which includes an optical molasses stage compared with optimal loading directly from a MOT. These observations are consistent with disruptions due to the magnetic fields present in the MOT.

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