

Abstract Submitted
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Construction of a semiconductor laser system for magneto-optical trapping of atomic rubidium¹ IAN DOUGHERTY, MICHAEL LIM, Dept. of Physics, Rowan University — We report on the construction of a semiconductor laser system to generate light for magneto-optical trapping of rubidium. A DFB laser is used as a master oscillator with rapid frequency tuning accomplished by an acousto-optic modulator in double-pass configuration. The resulting beam seeds a 0.5-W tapered semiconductor amplifier chip. We spatially mode-match its output to a polarization-maintaining, single-mode fiber using lenses and two anamorphic prism pairs. At maximum efficiency the system generates more than 100 mW of TEM00 power at the fiber output.

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