

Abstract Submitted
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Optical pumping of gaseous rubidium with elliptically polarized light KRISTEN NORTON, SAMANTHA NHIM, MICHAELA KLEINERT, Willamette University — In this poster we will demonstrate a method of visualizing quantum mechanical selection rules and optical pumping effects with a laser diode. We obtain Doppler-free absorption spectra of gaseous rubidium at room temperature using pump-probe absorption spectroscopy with elliptically polarized light. We investigate how the relative polarizations and intensities of the pump and probe beams affect the Doppler-free absorption signal. We will also show how to create an economical method to increase frequency stability of an external-cavity laser diode.

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