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Measuring the isotope shift with noisy lasers in pastic 3d-printed mounts MICHAEL CRESCIMANNO, THEODORE BUCCI, JONATHAN FEIGERT, Dept. of Physics and Astronomy, Youngstown State Univ, BRANDON CHAMBERLAIN, Dept. of Mechanical Engineering, The Ohio State Univ, ALEX GIOVANNONE, Dept. of Physics, The Ohio State Univ — We demonstrate the design, implementation and utility of a plastic (PLA) 3d-printed diode mount and associated simplified digital control system for free running laser diodes our students use to perform saturated absorption spectroscopy in Rubidium vapor for the determination of the isotope shift. We show this inexpensive, simpler approach to vapor cell nonlinear optics yields measurements which are statistically identical to those using commercial ECLDs and we compare the resulting isotope shift measurements to the accepted value found in high precision experiments.

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