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Hyperfine splittings of two photon 5s – 6s transitions of Rb CARSON MCLAUGHLIN, SETH ORSON, US Air Force Academy, MARK LINDSAY, Lindsay Enterprises Incorporated LLC, RANDY KNIZE, US Air Force Academy — Using a single frequency tapered amplifier diode laser scanning around 993 nm in a Rb cell, we have conducted two photon Doppler free spectroscopy of ^{85}Rb and ^{87}Rb. Using a wavemeter, we have measured the splittings and absolute positions of the four ΔF=0 hyperfine transitions from 5s to 6s to an accuracy of 0.001 cm^{-1}. We are also measuring the dependence of the hyperfine splittings on laser power and on the presence of various values of an applied DC electric field.

Mark Lindsay
Lindsay Enterprises Incorporated LLC

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