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Generation of High-Power Laser Light with GHz Splitting NICK PROITE, BRETT UNKS, DENIZ YAVUZ, University of Wisconsin - Madison — We demonstrate the generation of two high-power laser beams whose frequencies are separated by the hyperfine transition frequency in Rb-85. The system uses a single master diode laser appropriately shifted by a high frequency acousto-optic modulator and amplified by tapered amplifiers. This system produces two 1 Watt laser beams with a frequency spacing of 3.035 GHz. We discuss possible applications of this system including Electromagnetically Induced Transparency-like effects in both hot vapor cells and ultracold atomic clouds.

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