

Abstract Submitted
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A high power solid-state laser system for lithium atom experiments¹ FRANCISCO FONTA, ANDREW MARCUM, ARIF MAWARDI ISMAIL, KENNETH O'HARA, The Pennsylvania State University — Frequency doubled 1342 nm solid-state ring lasers are a promising alternative to external cavity diode lasers and tapered amplifiers for producing light around the lithium D line resonances. They are capable of achieving the significantly higher power necessary for many cutting-edge experiments. To this end we present an 888 nm pumped Nd:GdVO₄ ring laser with a 1.8 nm tuning range centered around 1341.2 nm. We then frequency double this laser to achieve high power light near 671 nm. Furthermore, we provide a high resolution measurement of the gain spectrum of Nd:GdVO₄ around 1342 nm and characterize the thermal lensing due to the high-power pump laser in our system.

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