

509. Title:Active Q-switching of the diode-pumped two-frequency Yb³⁺: KGd(WO₄)₂ Laser

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Abstract:Taking advantage of the spectroscopic anisotropy of the Yb³⁺: KGd(WO₄)₂ crystal and its anisotropic laser gain, we have obtained two-frequency and two-polarization lasing in the 13 THz range of frequency difference. Inside the laser crystal, the ordinary and extraordinary waves are spatially separated and pumped with an optical bifurcated fiber. The two output waves are merged in a collinear beam suitable for future frequency downconversion. The key contribution of this paper is that two-frequency lasing is demonstrated in active Q-switch regime from an acoustooptic modulator up to 10 kHz repetition rate and leading to simultaneous laser pulses when adequate experimental conditions are fulfilled.