

Passively Q-switched 1.55 μm laser performance of Er, Yb:GdAl₃(BO₃)₄ diode-pumped laser

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Abstract

© 2016 IEEE. We report diode-pumped passively Q-switched Er, Yb:GdAl₃(BO₃)₄ laser. By using of Co²⁺:MgAl₂O₄ crystal as a saturable absorber Q-switched laser pulses with duration of 12 ns and maximum energy of 18.7 μJ at repetition rate of 32 kHz corresponded to the average output power of 0.6 W were obtained at 1550 nm under the continuous-wave pumping. In burst-mode of operation Q-switched laser pulses with the highest energy up to 44 μJ were realized with a pulse repetition rate of 6.5 kHz.

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Keywords

erbium, laser, passively Q-switched, solid-state