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Title:Tunable single and multiwavelength continuous-wave c-cut Nd:YVO<inf>4</inf> laser
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Abstract:We report a discretely tunable, single and multiwavelength continuous-wave diode-end-pumped laser with a c-cut Nd:YVO<inf>4</inf> crystal lasing on the ⁴F<inf>3/2</inf>-⁴I<inf>11/2</inf> intermanifold transitions and an intracavity sub-THz free-spectral-range etalon. Experimental results show that it is tunable in the discrete regions of 1066.5-1066.8, 1083.1-1084.6, and 1087.2-1088.2 nm and operates simultaneously at dual-wavelengths of (1084.6, 1087.4), (1066.5, 1088.0), (1066.8, 1083.3) nm by changing the angle of an intracavity etalon with 0.67 THz free-spectral range. With a proper etalon angle, the laser can also simultaneously oscillate at four wavelengths of 1066.9, 1082.9, 1085.7, and 1088.3 nm with a total output power of 1.2 W at an incident diode pump power of 15 W. Similar performance of the laser at different wavelengths was also achieved by using a 0.88 THz free-spectral-range etalon in the same laser cavity. © 2012 Springer-Verlag.
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