

Thermal profiling of solid-state active media

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Abstract

© 2018 IEEE. The fluorescence intensity ratio technique to the thermal profiling of solid-state laser materials is developed. The temperature distribution inside the excited area of LiY0.8Yb0.2F4: Tm3+(0.2 at.%) crystals during z-scanning was studied.

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Keywords

Solid-state active media, Thermal effects, Thermal sensor

References

- [1] F. Heine, V. Ostroumov, E. Heumann, T. Jensen, G. Huber, and B. H. T. Chai, "CW Yb,Tm:LiYF Upconversion Laser at 650 nm, 800 nm, and 1500 nm," OSA Proc. ASSL'95 (B. Chai and S. Payne, eds.), Vol. 24, VL4, 1995
- [2] B.N. Kazakov, S.L. Korableva, V.V. Semashko, O.G. Goriev, A. R. Khadiev, "The experimental evidence of the amplified spontaneous emission of Yb³⁺ ions in LiYbF₄ crystal", J. of Lum., Vol. 187, pp. 410-413, 2017