Abstracts

Optical Faraday rotator using Ce-substituted fibrous YIG single crystal grown by floating-zone method with YAG laser heating

T. Sekijima, T. Fujii, K. Wakino and M. Okada. "Optical Faraday rotator using Ce-substituted fibrous YIG single crystal grown by floating-zone method with YAG laser heating." 1999 Transactions on Microwave Theory and Techniques 47.12 (Dec. 1999 [T-MTT] (Special Issue on 1999 International Microwave Symposium)): 2294-2298.

A new optical Faraday rotator using a fibrous Ce-substituted yttrium-iron-garnet (Ce:YIG) single crystal was developed. The fibrous Ce:YIG single crystal was successfully grown by the floating-zone method with infrared-assisted YAG laser heating at a fast growth rate. This crystal has a good quality and shows a better figure-of-merit for an optical Faraday rotator at wavelength /spl lambda/=1.55 /spl mu/m compared with commonly used Bi-substituted YIG films. Ce:YIG single crystals grown by our method are expected to reduce the cost of optical isolators.

❑ Return to main document.