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Author

Ono S. Sarukura N. Fukuda T.

Author Unabbreviated

Ono Shingo; Sarukura Nobuhiko; Fukuda Tsuguo

Author/Editor Affiliation

Fukuda T. : Advanced Institute for Materials Research, Tohoku University, 2-1-1 Katahira, Aoba-ku, Sendai, Miyagi 980-8577, Japan

Sarukura N. : Institute of Laser Engineering, Osaka University, Suita 565-0871, Japan

Ono S. : Nagoya Institute of Technology, Cokiso-cho, Showa-ku, Nagoya 466-8555, Japan

Title

Generation of Terahertz Radiation Using Zinc Oxide as Photoconductive Material

Source

Review of Laser Engineering, vol.39, no.3, March 2011, 203-6. Publisher: Laser Society of Japan, Japan.

Abstract

Terahertz (THz) radiation is generated from photoconductive antennas fabricated on a single crystal zinc oxide (ZnO). The all-solid state UV femtosecond laser is used for excitation. The THz-radiation power shows quadratical dependence on the electric field below 800 V/cm, and the obtained spectrum extends up to 1 THz. Moreover, the high crystallinity of the hydrothermally grown ZnO single crystal shows high transparency in the visible, near-infrared, and THz frequency regions. These observed characteristics open up the possibility of using ZnO in integrated active optics. (25 References).