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标题: Terahertz emission from Indium Oxide films grown on MgO substrates using sub-bandgap photon energy excitation
作者: Estacio, ES (Estacio, Elmer S.); Que, CT (Que, Christopher T.); Awitan, FCB (Awitan, Fritz C. B.); Bugante, JI (Bugante, Jan Isaac); de Vera, FI (de Vera, Francesca Isabel); Azares, J (Azares, Jonathan); Afalla, J (Afalla, Jessica); de Vero, J (de Vero, Jeffrey); Somintac, AS (Somintac, Armando S.); Sarmago, RV (Sarmago, Roland V.); Salvador, AA (Salvador, Arnel A.); Yamamoto, K (Yamamoto, Kohji); Tani, M (Tani, Masahiko)
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摘要: Indium oxide (In2O3) films grown by thermal oxidation on MgO substrates were optically excited by femtosecond laser pulses having photon energy lower than the In2O3 bandgap. Terahertz (THz) pulse emission was observed using time domain spectroscopy. Results show that THz emission saturates at an excitation fluence of similar to 400 nJ/cm(2). Even as two-photon absorption has been excluded, the actual emission mechanism has yet to be confirmed but is currently attributed to carriers due to weak absorption from defect levels that are driven by a strain field at the interface of the substrate and the grown film. (C)2012 Optical Society of America
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地址: [Estacio, Elmer S.; Que, Christopher T.; Yamamoto, Kohji; Tani, Masahiko] Univ Fukui, Res Ctr Dev Far Infrared Reg, Fukui 9108507, Japan
[Awitan, Fritz C. B.; Bugante, Jan Isaac; de Vera, Francesca Isabel; Azares, Jonathan; Afalla, Jessica; de Vero, Jeffrey; Somintac, Armando S.; Sarmago, Roland V.; Salvador, Arnel A.] Univ Philippines, Natl Inst Phys, Quezon City 1101, Philippines
通讯作者地址: Estacio, ES (通讯作者),Univ Fukui, Res Ctr Dev Far Infrared Reg, Fukui 9108507, Japan
电子邮件地址: estacio@fir.u-fukui.ac.jp
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