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Authors:Wang, Haiyan (1); Zhao, Guozhong (1); Wang, Xinqiang (2)
Author affiliation:(1) Key Laboratory of THz Spectroscopy and Imaging, Department of Physics, Capital Normal University, Beijing 100048, China; (2) State Key Laboratory of Artificial Microstructure and Mesoscopic Physics, School of Physics, Peking University, Beijing 100871, China
Corresponding author:Zhao, G.(guozhong-zhao@mail.cnu.edu.cn)
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Abstract:The characteristics of terahertz radiation from an n-type InN excited by femtosecond laser pulses tunable from 750 to 840 nm are experimentally studied. Terahertz emission from InN is closely bound up with the Dember effect. Terahertz emission can be interpreted as being emitted from accelerated photo-carriers excited by a femtosecond pulse in Dember field. Terahertz radiation from InN shows a strong dependence on excitation wavelength. Results show that under laser pulse excitation with a different center wavelength, the terahertz radiation shows different characteristics, such as radiation intensity, radiation efficiency, and spectrum width. This work will be propitious to the development of terahertz time-domain spectrum technology and the optimization of experiment system, as well as being a reference for conducting research on terahertz emission with higher radiation intensity and efficiency.
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