

标题: Tunable few-cycle coherent terahertz radiation with watt-level power from relativistic femtosecond electron beam

作者: Zhang, JB (Zhang, Jianbing); Deng, HX (Deng, Haixiao); Lin, XL (Lin, Xuling); Dai, DD (Dai, Dongdong); Sun, QL (Sun, Qilong); Lu, SL (Lu, Shanliang); Yu, TM (Yu, Tiemin); Zhao, HW (Zhao, Hongwei); Yang, H (Yang, Hang); Dai, ZM (Dai, Zhimin)

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摘要: We experimentally demonstrated the generation of watt-level, few-cycle coherent terahertz radiation with tunable frequency from 0.3 THz to 0.8 THz. The radiation is produced by an ultra-short relativistic electron bunch when passing through a magnetic undulator. The electron bunch is emitted from a thermionic gun and compressed to approximately 250 fs by an alpha magnet. With an average power up to 1.2W, the easy-to-implement scheme enables various new applications. (C) 2012 Elsevier B.V. All rights reserved.

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地址: [Zhang, Jianbing; Deng, Haixiao; Dai, Dongdong; Sun, Qilong; Lu, Shanliang; Yu, Tiemin; Zhao, Hongwei; Yang, Hang; Dai, Zhimin] Chinese Acad Sci, Shanghai Inst Appl Phys, Shanghai 201800, Peoples R China

[Lin, Xuling] Beijing Inst Space Mech & Elect, Beijing 100076, Peoples R China

[Yang, Hang] Nanjing Med Univ, Nanjing 210029, Jiangsu, Peoples R China

通讯作者地址: Deng, HX (通讯作者), Chinese Acad Sci, Shanghai Inst Appl Phys, Shanghai 201800, Peoples R China.

电子邮件地址: denghaixiao@sinap.ac.cn; daizhimin@sinap.ac.cn

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