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Title:Enhancing terahertz radiation from dipole photoconductive antenna by blending tips Authors:Diao, J.M. (1); Yang, F. (1); Du, L. (2); Ouyang, J. (1); Yang, P. (1)

Author affiliation:(1) Department of Microwave Engineering, School of Electronic Engi-neering, University of Electronic Science and Technology of China, Chengdu 611731, China; (2) Department of Communication Engineering, School of Communica-tion and Information Technology, University of Electronic Science and Technology of China, Chengdu 611731, China Corresponding author:Diao, J. M.(diaojunming@gmail.com)

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Abstract:We study the rectangular tips of the dipole photoconductive antenna, which has been widely used for terahertz radiation and detection, with different blend radii effect on the emission performance of terahertz (THz) radiation. For the amplitude of THz radiation pulse is proportional to the local electric field in the gap, the increased maximum bias electric field by blending tips is able to achieve higher THz radiation power. Both considering the influence to the maximum bias electric field and the emission efficiency, the blend radius of the rectangular tips is suggest to be larger than 5 μm and the radiation power is largely enhanced. Comparing to the previous work, our method has better THz radiation performance.

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