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Title:Enhanced center frequency of terahertz pulse emission from photoconductive antenna

Authors:Diao, J.M. (1); Du, L. (2); Ouyang, J. (1); Yang, P. (1); Nie, Z.P. (1)

Author affiliation:(1) Department of Microwave Engineering, School of Electronic Engineering, University of Electronic Science and Technology of China, Chengdu 611731, China; (2) Department of Communication Engineering, School of Communication 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:The center frequency of terahertz (THz) pulse radiated from photoconductive antenna is located at the low-frequency range of THz band. None of the antenna designs have been done to enhance the center frequency without decreasing antenna's dimension, which would largely decrease the radiation power. We introduce here the idea of separating antennas from the transmission lines to reduce the current distribution on them, showing superior performance for both the center frequency ($\sim 90\%$ increased) and the radiation power from the simulations of the dipole antennas.

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