

227

Accession number:20115114605867

Title:The role of self-similarity in fractal photoconductive THz emitters

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Source title:Journal of Infrared, Millimeter, and Terahertz Waves

Abbreviated source title:J. Infrared. Millim. Terahertz Waves

Volume:32

Issue:11

Issue date:November 2011

Publication year:2011

Pages:1285-1290

Language:English

ISSN:18666892

E-ISSN:18666906

Document type:Journal article (JA)

Publisher:Springer New York, 233 Springer Street, New York, NY 10013-1578, United States

Abstract:We present the effect of self-similarity in fractal photoconductive THz emitters. The performance of fractal THz PC emitters are compared to those of non-fractal emitters, and their radiation properties are studied. It is demonstrated that the THz radiation emission enhancement results from the inherent fractal self-similarity and not only from the sub-wavelength apertures pattern present on the antenna's surface. Through the application of this concept, photoconductive THz emitters having higher THz radiation power could be designed and fabricated.

Number of references:11