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Accession number:20123815457107
Title:Proposal of terahertz patch antenna fed by intrinsic Josephson junctions
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Source title:Applied Physics Letters
Abbreviated source title:Appl Phys Lett
Volume:101
Issue:11
Issue date:September 10, 2012
Publication year:2012
Article number:112602
Language:English
ISSN:00036951
CODEN:APPLAB
Document type:Journal article (JA)
Publisher:American Institute of Physics, 2 Huntington Quadrangle, Suite N101, Melville, NY 11747-4502, United States
Abstract:We propose a THz patch antenna, in which THz ac current is fed by intrinsic Josephson junctions (IJJs). The radiation power of the antenna for three different feed positions is calculated using the finite-difference time-domain method. We predict that the antenna will radiate sub-milliwatt terahertz waves with high radiation efficiency of over 20. The maximum radiation power will depend on the position of the feed. We also show that the radiation characteristics of the antenna are described well by the equivalent inductance-capacitance-resistance circuit model. © 2012 American Institute of Physics.
Number of references:22
Main heading:Josephson junction devices
Controlled terms:Finite difference time domain method - Microstrip antennas
Uncontrolled terms:AC currents - Circuit models - Feed position - Finite-difference time-domain (FDTD) methods - High radiation efficiency - Intrinsic Josephson junction - Radiation characteristics - Radiation power - Tera Hertz
Classification code:715.1 Electronic Equipment, non-communication - 716 Telecommunication; Radar, Radio and Television - 921 Mathematics
DOI:10.1063/1.4751846
Database:Compendex