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Effect of stripline electrodes on coherent terahertz emission from BSCCO intrinsic Josephson junctions MANABU TSUJIMOTO, GENKI KUWANO, CHIHARU WATANABE, HIROYUKI KUBO, KAZUKI SAKAMOTO, TAKUYA KATSURAGAWA, TAIGA TANAKA, TAKUMI YUASA, YUKI KOMORI, RYUSEI OTA, YUUKI TANABE, KENTO NAKAMURA, TAKANARI KASHIWAGI, HIDETOSHI MINAMI, KAZUO KADOWAKI, University of Tsukuba, TAKUJI DOI, ASEM ELARABI, ITSUHIRO KAKEYA, Kyoto University — Since terahertz radiation in the 0.3–10 THz frequency range is technologically attractive, terahertz generation from stacks of intrinsic Josephson junctions in $Bi_2Sr_2CaCu_2O_{8+\delta}$ (Bi-2212) has become a major focus of both experimental and theoretical research [U. Welp *et al.*, Nat. Photonics **7**, 702 (2013)] In the present study, we investigate the effect of a stripline electrode on the coherent terahertz emission from Bi-2212 intrinsic junctions. We observed peculiar emission patterns with temperature-independent stripes in the current-voltage characteristics. We analyzed the experimental data using an electromagnetic simulator to investigate the impedance matching conditions for efficient terahertz emission from Bi-2212 mesas.

Manabu Tsujimoto
University of Tsukuba

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