

552. 标题: Terahertz Radiation Emitted from Intrinsic Josephson Junctions in High-T-c Superconductor Bi₂Sr₂CaCu₂O_{8+δ}

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摘要: The present status of superconducting terahertz emitter using the intrinsic Josephson junctions in high-T-c superconductor Bi₂Sr₂CaCu₂O_{8+δ} is reviewed. Fabrication methods of the emitting device, electrical and optical characteristics of them, synchronizing operation of two emitters and an example of applications to the terahertz imaging will be discussed. After the description of fabrication techniques by an Argon ion milling with photolithography or metal masks and by a focused ion beam, optical properties of radiation spectra, the line width, polarization and the spatial distribution of emission are presented with some discussion on the operation mechanism. For electrical properties, reversible and irreversible operations at high and low electrical currents, respectively, and electrical modulation of the radiation intensity for terahertz imaging are presented.

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