Abstracts

A Superconducting Tunnel Junction Receiver for 230 GHz (Short Papers)

E.C. Sutton. "A Superconducting Tunnel Junction Receiver for 230 GHz (Short Papers)." 1983 Transactions on Microwave Theory and Techniques 31.7 (Jul. 1983 [T-MTT]): 589-592.

The performance of superconducting tunnel junctions as high-frequency receivers is discussed. Low-noise mixing in superconductor insulator-superconductor (SIS) quasi-particle tunnel junctions has been seen for frequencies up to 400 GHz. Such mixers have the significant advantage of small local-oscillator power requirements. A receiver has been constructed which has a single-sideband (SSB) receiver noise temperature of 305 K at 241 GHz.

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