Abstracts

Experimental results of SIS mixers with distributed junction arrays

Sheng-Cai Shi, T. Noguchi, J. Inatani, Y. Irimajiri and T. Saito. "Experimental results of SIS mixers with distributed junction arrays." 1998 Microwave and Guided Wave Letters 8.11 (Nov. 1998 [MGWL]): 381-383.

The heterodyne mixing performance of three respective distributed junction arrays, i.e., a number of superconductor-insulator-superconductor (SIS) junctions distributed along a thin-film transmission line involving two, five, and ten junctions are measured and compared to their Fourier transform spectroscopy (FTS) detection responses. It has been found that distributed junction arrays have a rather large bandwidth in comparison to conventional SIS junction devices, while still keeping a quantum-limited noise performance. Detailed experimental results are presented.

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