Abstracts

Submillimeter Heterodyne Detection and Harmonic Mixing Using Schottky Diodes

H.R. Fetterman, B.J. Clifton, P.E. Tannenwald, C.D. Parker and H. Penfield. "Submillimeter Heterodyne Detection and Harmonic Mixing Using Schottky Diodes." 1974 Transactions on Microwave Theory and Techniques 22.12 (Dec. 1974, Part I [T-MTT] (Special Issue on the Proceedings of the First International Conference on Submillimeter Waves and Their Applications)): 1013-1015.

Schottky diodes have been used for submillimeter, heterodyne detection and harmonic mixing. Using a carcinotron local oscillator at 890 µm, sensitive detectors of optically pumped lasers have been demonstrated up to fifth harmonic mixing at 1757.5 GHz. The measured noise equivalent power (NEP) in fundamental mixing is approximately 10/sup -16/ W/Hz.

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