Abstracts

A 230-GHz Radiometer System Employing a Second-Harmonic Mixer (Short Papers)

P.F. Goldsmith and R.L. Plambeck. "A 230-GHz Radiometer System Employing a Second-Harmonic Mixer (Short Papers)." 1976 Transactions on Microwave Theory and Techniques 24.11 (Nov. 1976 [T-MTT] (Special Issue on Millimeter Waves: Circuits, Components, and Systems)): 859-861.

A radiometer system for use in the lambda ~ 1.3 mm (v ~ 230 GHz) region has been constructed and used for radio astronomical observations. A second-harmonic mixer employing a single Schottky diode downconverts the incident power to an IF frequency of -1400 MHz. The measured double-sideband system noise temperature is 6000 K (noise figure = 13 dB) and the double-sideband mixer conversion loss is calculated to be 10 dB. The mixer is tunable over a range of at least 15 GHz.

❑ Return to main document.