Abstracts

A 200-300 GHz Heterodyne Receiver

N.R. Erickson. "A 200-300 GHz Heterodyne Receiver." 1980 MTT-S International Microwave Symposium Digest 80.1 (1980 [MWSYM]): 19-20.

A heterodyne receiver for the 200-300 GHz region has been developed and used in astronomical observations. Two room temperature Schottky diode mixers are used to cover this range, with LO power provided by frequency multiplied klystrons. A single crossed-waveguide frequency multiplier covers the entire range, and is found to produce adequate output power by either doubling or tripling. Signal-local oscillator diplexing is done with a quasi-optical diplexer based on a Martin-Puplett interferometer. The best system sensitivities obtained with the two mixers have been 2500 K SSB at 230 GHz and 2900 K at 285 GHz.

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