Abstracts

Microwave Type Bolometer for Submillimeter Wave Measurements

J.F. Byrne and C.F Cook. "Microwave Type Bolometer for Submillimeter Wave Measurements." 1963 Transactions on Microwave Theory and Techniques 11.5 (Sep. 1963 [T-MTT]): 379-384.

An approach to the problem of submillimeter wave measurement through the extension of microwave techniques has led to the development of a submillimeter bolometer with the sensitivity requisite to calibration with a thermal source. The sensor employs conventional components, horn, waveguide and coaxial line, with a novel coax-to-guide transition consisting of part of the bolometer element, the rest of which serves as a center conductor of the coaxial lines. The entire set of submillimeter components is contained in a ¼-inch block of metal. Fundamental problems of detection in this band are discussed with application to the sensor. Calibration techniques and data taken with the instrument are reported.

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