

Abstracts

Analysis of a Microwave Radiometer for Precise Standardization of Noise Sources

G. Ward and J. Richardson. "Analysis of a Microwave Radiometer for Precise Standardization of Noise Sources." 1963 PTGMTT National Symposium Program and Digest 63.1 (1963 [MWSYM]): 147-150.

It is possible to derive a very general expression for the voltage wave emergent from one part of a multiport microwave junction, which itself contains sources, and to the arms of which are connected general microwave two-ports themselves terminated by active sources. This expression may be specialized to a class of microwave radiometers, consisting of a three-port junction, to the arms of which are connected, through general microwave two-ports used for measurement, respectively a microwave source to be measured, a standard source in terms of which the measurement is made, and a receiver. The analysis is sufficiently complete to identify clearly many conditions which bear on the accuracy of measurement of the unknown source, and to quantitatively evaluate them, or to keep them below some tolerable contribution.

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