Abstracts

On Measurements of Microwave /bar E/ and /bar H/ Field Distributions by using Modulated Scattering Methods

M.K. Hu. "On Measurements of Microwave /bar E/ and /bar H/ Field Distributions by using Modulated Scattering Methods." 1960 Transactions on Microwave Theory and Techniques 8.3 (May 1960 [T-MTT]): 295-300.

The modulated scattering method of Justice, Rumsey, and Richmond for measuring /bar E/ field distribution is extended to the measurement of /bar H/ field distribution by using a loop scatterer formed by two diodes. This diode loop method has the particular advantage of eliminating the large and undesirable effect produced by the associated /bar E/ field when measuring the /bar H/ field. A scattering analysis of the modulated diode loop is presented. It explains the principle of this new method and also supports the advantage mentioned above. A similar analysis for the modulated diode scatterer used in measuring /bar E/ is also presented. It is believed that the explanation based upon this analysis for the /bar E/ measurement is more satisfactory than that given by Richmond which is based upon a qualitative description of the diode scatterer.

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