

Abstracts

A Precise and Sensitive X-Band Reflecto"meter" Providing Automatic Full-Band Display of Reflection Coefficient

F.C. de Ronde. "A Precise and Sensitive X-Band Reflecto"meter" Providing Automatic Full-Band Display of Reflection Coefficient." 1965 Transactions on Microwave Theory and Techniques 13.4 (Jul. 1965 [T-MTT]): 435-440.

A simple waveguide system has been made for the instantaneous measurement of the magnitude of the reflection coefficient as a function of frequency for the 8.2-12.4 Gc band. Reflection coefficients in the range 1 to 0.001 can be measured on linear scales; above 0.01 the error is less than ± 3 per cent, below 0.01 it is estimated to be in the order of ± 5 per cent. By using a long line between the unknown impedance and the two wall-current detectors, which act as measuring probes, an audio-frequency voltage has been obtained which is linearly proportional to the amplitude of the unknown reflection coefficient. A third wall-current detector is used as a leveler. The principle is quite simple and can easily be applied for other frequencies or transmission lines.

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