

Abstracts

The Statistical Prediction of Voltage Standing-Wave Ratio

J.A. Mullen and W.L. Pritchard. "The Statistical Prediction of Voltage Standing-Wave Ratio." 1957 Transactions on Microwave Theory and Techniques 5.2 (Apr. 1957 [T-MTT]): 127-130.

The problem of predicting the probability distribution of vswr for many randomly spaced discontinuities is solved using the "central limit theorem." Assuming that reflection factors add in the complex plane and using the "central limit theorem" the result is shown to be a Rayleigh distribution in terms of the reflection factor. The probability of the vswr over a band of frequencies is calculated using the concept that this band of frequencies can be considered as a number of statistically independent samples.

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