# Abstracts

## Improved Technique for Determining Complex Permittivity with the Transmission/Reflection Method

*J. Baker-Jarvis, E.J. Vanzura and W.A. Kissick. "Improved Technique for Determining Complex Permittivity with the Transmission/Reflection Method." 1990 Transactions on Microwave Theory and Techniques 38.8 (Aug. 1990 [T-MTT]): 1096-1103.*

The transmission/reflection method for complex permittivity and permeability determination is studied. The special case of permittivity measurement is examined in detail. New robust algorithms for permittivity determination that eliminate the ill-behaved nature of the commonly used procedures at frequencies corresponding to integer multiples of one-half wavelength in the sample are presented. An error analysis is presented which yields estimates of the errors incurred due to the uncertainty in scattering parameters, length measurement, and reference plane position. In addition, new equations are derived for determining complex permittivity independent of reference plane position and sample length.

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