# Abstracts

## Intercomparison of Permittivity Measurements Using the Transmission/Reflection Method in 7-mm Coaxial Transmission Lines

*E.J. Vanzura, J.R. Baker-Jarvis, J.H. Grosvenor and M.D. Janezic. "Intercomparison of Permittivity Measurements Using the Transmission/Reflection Method in 7-mm Coaxial Transmission Lines." 1994 Transactions on Microwave Theory and Techniques 42.11 (Nov. 1994 [T-MTT]): 2063-2070.*

Broadband permittivity measurements made by eleven organizations using the transmission/reflection (T/R) method are compared to high-accuracy cavity resonator results. T/R accuracy is less than 10% for epsilon'/sub r/ < 15, and the smallest measurable loss factor is epsilon/ "over /sub r/ /spl ap/ 0.05. Uncertainty caused by the air gaps between the specimen and the inner and outer conductors is the largest contributor to the overall uncertainty. Compared to other dimensional measurement methods, physical measurement of specimen bore and outer diameters yield the most accurate gap corrections.

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