Abstracts

Further Analysis of Open-Ended Dielectric Sensors (Short Papers)

M. Okoniewski, J. Anderson, E. Okoniewska, K. Caputa and S.S. Stuchly. "Further Analysis of Open-Ended Dielectric Sensors (Short Papers)." 1995 Transactions on Microwave Theory and Techniques 43.8 (Aug. 1995 [T-MTT]): 1986-1989.

The effect on the input reflection coefficient of the dimensions of open-ended coaxial lines is investigated. Using a standard FDTD technique, the effects of variations in the flange and conductor dimensions on the reflection coefficient of a 3.6 mm coaxial line immersed in water or methanol are simulated. Simulation results are compared with measurements and previous moment method calculations. It is found that the presence or absence of a flange affects the input reflection coefficient substantially in some cases. The results also show that inversion formulas developed for lines with infinite flanges are not valid for flanges with finite radii.

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