Abstracts

Input Impedance of a Coaxial Probe Located Inside a Rectangular Cavity: Theory and Experiment (Short Papers)

M.S. Leong, L.W. Li, P.S. Kooi, T.S. Yeo and S.L. Ho. "Input Impedance of a Coaxial Probe Located Inside a Rectangular Cavity: Theory and Experiment (Short Papers)." 1996 Transactions on Microwave Theory and Techniques 44.7 (Jul. 1996, Part I [T-MTT]): 1161-1164.

In this work, theoretical and experimental analyzes of input impedance of a coaxial probe located in a rectangular cavity are presented. The technique of dyadic Green function (DGF) and the method of moments (MM) are applied in the theoretical analysis. For the magnetic equivalent source with a y-directed discontinuity, two alternative representations of magnetic DGF for a rectangular cavity are derived in this paper. Numerical input reactance and phase of the reflection coefficient at the base of the probe obtained using both the conventional form and the alternative representations of the DGF are compared with the experimental data collected. It is found that the computed results obtained utitizing alternative DGF's agree better with the measured data.

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