Abstracts

An Efficient Method for the Determination of Resonant Frequencies of Shielded Circular Disk and Ring Resonators (Short Papers)

F. Tefiku and E. Yamashita. "An Efficient Method for the Determination of Resonant Frequencies of Shielded Circular Disk and Ring Resonators (Short Papers)." 1993 Transactions on Microwave Theory and Techniques 41.2 (Feb. 1993 [T-MTT]): 343-346.

This short paper describes an efficient method for the determination of resonant frequencies of shielded circular disks and annular ring resonators. Bounary integral equations are set up based on the Green's identity in the circular cylindrical coordinates, and are numerically solved by discretizing common boundary integral paths. The overall integration path is considerably shortened to reduce computation time by using simple eigen functions satisfying regular homogeneous boundary conditions as weighting functions instead of using Green's functions. Computational results for both circular disks and annular rings are presented and compared with other available numerical results for some cases. This method can be extended to treat thick conductors.

❑ Return to main document.