Abstracts

Application of Least-Squares Boundary Residual Method to the Analysis of a Circular Waveguide Loaded with a Nonconcentric Dielectric Rod

S.-P. Yeo. "Application of Least-Squares Boundary Residual Method to the Analysis of a Circular Waveguide Loaded with a Nonconcentric Dielectric Rod." 1990 Transactions on Microwave Theory and Techniques 38.8 (Aug. 1990 [T-MTT]): 1092-1095.

Although the point matching method had been used by other researchers to analyze dielectric-loaded waveguides, it lacks the mathematical rigor of the least squares boundary residual method (LSBRM). The present paper seeks, therefore, to utilize the LSBRM as an alternative modeling tool to analyze a circular waveguide loaded with a nonconcentric dielectric rod. Tests indicate that the numerical accuracies obtainable from the LSBRM model can be better than ±0.5%.

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