

Abstracts

Rigorous Analysis and Network Modeling of the Inset Dielectric Guide

T. Rozzi and S.J. Hedges. "Rigorous Analysis and Network Modeling of the Inset Dielectric Guide." 1987 Transactions on Microwave Theory and Techniques 35.9 (Sep. 1987 [T-MTT]): 823-834.

The inset dielectric guide (IDG) is an easy-to-fabricate alternative to image line and is also less sensitive to loss by radiation at discontinuities. This paper presents a rigorous variational analysis in space domain based on field and network considerations (transverse resonance diffraction). This approach yields an accurate transverse equivalent network for the fundamental mode suitable for evaluation by a desktop calculator. Theoretical and experimental results are in excellent agreement.

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