Abstracts

A Modified Transverse Resonance Method for the Analysis of Multilayered, Multiconductor Quasiplanar Structures with Finite Conductor Thickness and Mounting Grooves (Short Papers)

J.-W. Tao. "A Modified Transverse Resonance Method for the Analysis of Multilayered, Multiconductor Quasiplanar Structures with Finite Conductor Thickness and Mounting Grooves (Short Papers)." 1992 Transactions on Microwave Theory and Techniques 40.10 (Oct. 1992 [T-MTT]): 1966-1970.

A modified transverse resonance method is presented for analyzing generalized multilayered, multiconductor quasiplanar structures with practical parameters such as finite conductor thickness and monnting grooves. Recurrence relations are obtained by using network theory, for obtaining the overall transverse equivalent network, while the discontinuity involving finite thickness metal sheet and mounting groove is carried out by field-theory based multimodal variational formulation. The frequency behavior of propagating, evanescent and complex modes are obtained for several commonly used quasiplanar lines, showing good agreement with published results. Furthermore, the leaky-wave study is carried out for open structures, since the open condition can be included in this formulation without difficulties.

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