Abstracts

Dispersion in Anisotropic Media Modeled by Three-Dimensional TLM

C. Huber, M. Krumpholz and P. Russer. "Dispersion in Anisotropic Media Modeled by Three-Dimensional TLM." 1995 Transactions on Microwave Theory and Techniques 43.8 (Aug. 1995 [T-MTT]): 1923-1934.

The dispersion in anisotropic media modeled by three-dimensional TLM is investigated. Two nodes, the symmetrical condensed node with stubs and the symmetrical super-condensed node are considered. Simple closed-form expressions for the dispersion relations do not exist in general, therefore the investigations are restricted to wave propagation in isotropic media and to wave propagation along the mesh axes and the mesh diagonals. The dispersion analysis for the symmetrical super-condensed node yields a direct relationship between the relative permittivity and relative permeability and the parameters of the scattering matrix.

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