Abstracts

Self Adaptive Mesh Scheme for the Finite Element Analysis of Anisotropic Multiconductor Transmission-Lines

M. Salazar-Palma and F. Hernandez-Gil. "Self Adaptive Mesh Scheme for the Finite Element Analysis of Anisotropic Multiconductor Transmission-Lines." 1989 MTT-S International Microwave Symposium Digest 89.1 (1989 Vol. I [MWSYM]): 507-510.

A self adaptive mesh algorithm for transmission-lines Finite Element analysis is presented: it leads to an easy-to-use automatic FEM program in which the mesh corresponding to the domain discretization necessary for the FEM application- is automatically well adapted to the structure under study, taking into account not only its geometry and materials, but field behavior and singularities. The method is based on the calculation of the error of the gradient conjugate solution of the structure FEM approach with a given coarse mesh. The error analysis gives information about the need of refining the grid, and which elements must be subdivided. Method application to the quasi-static approach of several anisotropic substrates microstrip-line structures is shown.

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