Abstracts

Global edge-conditioned basis functions from local solutions of Maxwell's equations

S. Amari, A. Motamedi, J. Bornemann and R. Vahldieck. "Global edge-conditioned basis functions from local solutions of Maxwell's equations." 1997 MTT-S International Microwave Symposium Digest 3. (1997 Vol. III [MWSYM]): 1373-1376.

A new set of edge-conditioned basis functions for the moment method solutions of electromagnetic problems is introduced. The basis functions are themselves solutions to the differential forms of Maxwell's equations and satisfy the local boundary conditions at metallic wedges. Numerical results using this new set are presented and compared with available data for a ridged rectangular waveguide to demonstrate its adequacy. An efficient technique to compute integrals of rapidly oscillating and singular integrands is also presented.

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