Abstracts

Modal block-LU-decomposition technique for the efficient CAD of ridged waveguide filters

R. Beyer, F. Arndt and W. Hauth. "Modal block-LU-decomposition technique for the efficient CAD of ridged waveguide filters." 1997 MTT-S International Microwave Symposium Digest 3. (1997 Vol. III [MWSYM]): 1235-1238.

A mode-matching/block-LU-decomposition (MMLU) technique is presented for the fast calculation of the modal S-parameters of and the fields in waveguide components composed of step discontinuities and homogeneous sections. The MMLU approach leads to a numerically efficient block-tridiagonal matrix structure. Arbitrary cross-sections are included by the combination with the fast and flexible 2D FE method. The efficiency of the method is demonstrated at the CAD of advanced broadband higher-order mode suppression ridged waveguide filters. Excellent agreement with measurements verifies the theory.

❑ Return to main document.