Abstracts

GSM/moment-method CAD of waffle-iron-filters with round teeth

R. Bunger and F. Arndt. "GSM/moment-method CAD of waffle-iron-filters with round teeth." 1999 MTT-S International Microwave Symposium Digest 99.4 (1999 Vol. IV [MWSYM]): 1691-1694 vol.4.

A combined generalized scattering matrix (GSM) moment method is presented for the CAD of waveguide components including structures of more universal shape. For appropriate 3D subsections, the GSM is calculated based on the Kirchhoff-Huygens principle and the free space Green's function. The combination of the GSMs of the subsections with those of the homogeneous waveguide sections in between yields the GSM of the overall waveguide component. As basis functions for the magnetic and electric surface current densities, the eigenvectors of the waveguide port sections, and the RWG functions (triangular patches) are used, respectively. The accuracy of the method is verified by reference values. Its flexibility is demonstrated at the CAD example of a waffle-iron filter with round teeth.

❑ Return to main document.