Abstracts

Improvement in Calculation of Some Surface Integrals: Application to Junction Characterization in Cavity Filter Design (Dec. 1993 [T-MTT])

P. Guillot, P. Couffignal, H. Baudrand and B. Theron. "Improvement in Calculation of Some Surface Integrals: Application to Junction Characterization in Cavity Filter Design (Dec. 1993 [T-MTT])." 1993 Transactions on Microwave Theory and Techniques 41.11 (Dec. 1993 [T-MTT] (1993 Symposium Issue)): 2156-2160.

An integral method is presented for the accurate characterization of waveguide junctions which are commonly used in the design of cavity filters. The specific feature of this approach is a reduction of a surface integral to a simple contour integral and the consequent reduction in the computation time of the junction scattering parameters is more than 50%. The method is applied to calculate the electromagnetic coupling between circular cavities through rectangular irises as well as their coupling to the input and output waveguides. This method, in conjunction with an optimization procedure, is employed for the direct design of a dual mode cavity filter and the obtained results are in good agreement with experimental data.

❑ Return to main document.