

# Abstracts

## Improvement in Calculation of Some Surface Integrals: Application to Junction Characterization in Cavity Filter Design (1993 Vol. I [MWSYM])

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*P. Guillot, P. Couffignal, H. Baudrand and B. Theron. "Improvement in Calculation of Some Surface Integrals: Application to Junction Characterization in Cavity Filter Design (1993 Vol. I [MWSYM])." 1993 MTT-S International Microwave Symposium Digest 93.1 (1993 Vol. I [MWSYM]): 455-458.*

This rigorous method allows to reduce a surface integral to a contour integral. The application of this formulation to the study of a circular - to - rectangular waveguide junction reduces more than 50 % computation time of the scattering parameters. The method is applied to calculate the electromagnetic coupling of circular cavities by a rectangular iris. This approach, together with an optimization procedure has allowed the direct design of a filter without any further mechanical adjustments. The obtained results are in good agreement with experimental data.

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