Abstracts

A New Rigorous Method for the Determination of Iris Dimensions in Dual-Mode Cavity Filters

P. Couffignal, H. Baudrand and B. Theron. "A New Rigorous Method for the Determination of Iris Dimensions in Dual-Mode Cavity Filters." 1994 Transactions on Microwave Theory and Techniques 42.7 (Jul. 1994, Part II [T-MTT] (Special Issue on Filters and Multiplexers)): 1314-1320.

A variational method based on the mode expansion is used in order to determine the accurate physical dimensions of coupling irises in dual-mode cavity filters. By considering the concept of localized and accessible modes, a series of convergence tests are carried out in order to optimize the number and nature of modes which should be included in the numerical calculations. As a consequence, the size of matrices involved and the corresponding computation time are reduced dramatically. This approach, validated by corresponding experimental data, allows us to achieve a considerable reduction of the fabrication time of this type of filter. Actually, the filter can be tuned immediately without any correction of the calculated irises.

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