Abstracts

Mode-Matching Analysis of TE/sub 011/-Mode Waveguide Bandpass Filters

A. Melloni, M. Politi and G.G. Gentili. "Mode-Matching Analysis of TE/sub 011/-Mode Waveguide Bandpass Filters." 1995 Transactions on Microwave Theory and Techniques 43.9 (Sep. 1995, Part I [T-MTT]): 2109-2116.

A mode-matching technique for the analysis of waveguide bandpass filters employing circular TE/sub 011/ resonators, coupled by rectangular apertures, is presented. Such a technique takes rigorously into account thickness and angular offset of the two coupling irises, and higher modes interactions between resonators, while overcoming the typical limitations of the available approximate models. We show, through an optimization procedure, that it is possible to design filters with a desired frequency response, without needing any further empiric adjustments. Spurious responses can be controlled too.

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