Abstracts

Parameter extraction for symmetric coupled-resonator filters (Dec. 2002 [T-MTT])

Heng-Tung Hsu, Zhenyu Zhang, K.A. Zaki and A.E. Ati. "Parameter extraction for symmetric coupled-resonator filters (Dec. 2002 [T-MTT])." 2002 Transactions on Microwave Theory and Techniques 50.12 (Dec. 2002 [T-MTT] (Special Issue on 2002 International Microwave Symposium)): 2971-2978.

A new parameter-extraction procedure for symmetric coupled-resonator filters is presented. Closed-form recursive formulas are derived for the synthesis of all the filter parameters (resonant frequencies of the individual resonators and couplings between resonators) from known measured or simulated zeros and poles of input impedance functions of the singly terminated even and odd-mode networks. Capable of accurately predicting the unavoidable spurious couplings between nearby resonators, this simple and straightforward procedure can eliminate complicated optimization routines and have extensive applications in design and tuning of filters.

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