Abstracts

Automated CAD of coupled resonator filters

P. Kozakowski and M. Mrozowski. "Automated CAD of coupled resonator filters." 2002 Microwave and Wireless Components Letters 12.12 (Dec. 2002 [MWCL]): 470-472.

A gradient-based optimization technique along with a new definition of cost function is applied to the CAD of coupled resonator filters. The topology of the structure is enforced at each step of optimization and its physical dimensions are used as optimization variables. The cost function is defined using location of zeros and poles of the filter's transfer and reflection functions. Numerical tests show that with the new definition of the cost function, the optimization process converges from an arbitrarily selected starting point. This allows one to design filters even without a rough microwave synthesis which usually provides initial dimensions.

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