Abstracts

Synthesis of general topology multiple coupled resonator filters by optimization

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A synthesis procedure, using optimization, for multiple coupled resonator filters having general topology and general response is described. The error function for the optimization is based on the values of the characteristic function at its zeros and poles. The optimization is performed directly on the element values of the coupling matrix. Convergence of the optimization is extremely fast and nearly independent of the starting coupling matrix. Examples of the design of practical filters with symmetric or asymmetric responses and topology are presented.

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