Abstracts

Direct synthesis of microwave filters using inverse scattering TLM (transmission line matrix) method

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This work proposes a new design procedure of planar microwave filters based on the inversion of the one-dimensional TLM (Transmission Line Matrix) method. The technique is based on the solution of the inverse scattering problem using a TLM based algorithm. The procedure consists of determining the geometry of the obstacle that generates the desired scattered field. In the case of filters this field is the time-domain input reflection coefficient and the geometry is the impedance profile of the filter. The procedure can be used to create filters with arbitrary characteristics.

❑ Return to main document.