Abstracts

Reconstruction of microwave structures using two-dimensional inverse TLM (Transmission Line Matrix) method

W.A. de Souza and R.A.X. de Menezes. "Reconstruction of microwave structures using two-dimensional inverse TLM (Transmission Line Matrix) method." 2001 MTT-S International Microwave Symposium Digest 01.2 (2001 Vol. II [MWSYM]): 905-908 vol.2.

This work proposes a new reconstruction procedure of two-dimensional microwave structures based on the inversion of the two-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 TLM this field is the time-domain input reflection coefficient at all input terminals and the geometry is the impedance at all nodes of the TLM mesh. The procedure can be used to reconstruct objects with arbitrary characteristics in small TLM meshes.

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