Abstracts

A Novel Synthesis Technique for Conducting Scatterers Using TLM Time Reversal

M. Forest and W.J.R. Hoefer. "A Novel Synthesis Technique for Conducting Scatterers Using TLM Time Reversal." 1995 Transactions on Microwave Theory and Techniques 43.6 (Jun. 1995 [T-MTT]): 1371-1378.

This paper presents a novel numerical synthesis technique based on the reversal of the TLM process in time. It allows the designer to generate the geometry of a passive structure from its desired frequency response using alternate forward and backward time domain simulations. The essential steps of the procedure are explained and validated using, as an example, the synthesis of an inductive obstacle in a waveguide. If fully developed, it promises to become an advantageous alternative to the traditional techniques using frequency domain numerical methods.

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