Abstracts

An Alternative Way of Computing S-Parameters via Impulsive TLM Analysis without Using Absorbing Boundary Conditions

M. Righi, C. Eswarappa, W.J.R. Hoefer and P. Russer. "An Alternative Way of Computing S-Parameters via Impulsive TLM Analysis without Using Absorbing Boundary Conditions." 1995 MTT-S International Microwave Symposium Digest 95.3 (1995 Vol. III [MWSYM]): 1203-1206.

This paper presents a transmission line matrix (TLM) procedure to compute wideband scattering parameters of microwave structures from a single time domain simulation without using matched loads or absorbing boundary conditions (ABCS) in the main propagating direction. This is done by computing the admittance parameters in the time domain through an impulsive excitation and short-circuit boundary conditions (SBCS). Results presented for both lossy and lossless cases agree well with available data. Also, this procedure does not require the prior knowledge of the propagation characteristics (such as incidence angle or effective dielectric constant) of the guide.

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