

# Abstracts

## Time Domain Analysis of Lossy Multi-Conductor Transmission Lines Using the Hilbert Transform

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*T.R. Arabi and R. Suarez-Gartner. "Time Domain Analysis of Lossy Multi-Conductor Transmission Lines Using the Hilbert Transform." 1993 MTT-S International Microwave Symposium Digest 93.2 (1993 Vol. II [MWSYM]): 987-990.*

The objective of this paper is to present a novel approach of utilizing the Hilbert Transform to enforce the causality requirements on the electromagnetic fields in the analysis of high speed digital circuits. The technique is particularly useful in the absence of extremely accurate broad band data for the complex permittivity of lossy dielectric materials. Finally, in order to validate the accuracy and usefulness of this new approach, several numerical examples have been solved and compared to lossless and traditional non-causal models.

 [Return to main document.](#)