

# Abstracts

## An Efficient Technique for the Time Domain Analysis of Multi-Conductor Transmission Lines Using the Hilbert Transform

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*T.R. Arabi, A.T. Murphy and T.K. Sarkar. "An Efficient Technique for the Time Domain Analysis of Multi-Conductor Transmission Lines Using the Hilbert Transform." 1991 MTT-S International Microwave Symposium Digest 91.1 (1991 Vol. I [MWSYM]): 185-188.*

Most models that appeared in the literature for the transient time domain analysis of lossy multi-conductor, multi-dielectric transmission line systems are non causal and fail to accurately predict the pulse distortion resulting from the losses in a multi-conductor transmission line for very fast digital signals. The reason has been found in the modeling of the frequency dependent material characteristics, particularly the complex dielectric constant  $\epsilon(\omega)$ . In this paper, a causal model, based on the Hilbert Transform, is presented.

[Return to main document.](#)