Abstracts

An Application of FD-TD Method for Studying the Effects of Packages on the Performance of Microwave and High Speed Digital Circuits (Short Papers)

K.-L. Wu, C. Wu and J. Litva. "An Application of FD-TD Method for Studying the Effects of Packages on the Performance of Microwave and High Speed Digital Circuits (Short Papers)." 1994 Transactions on Microwave Theory and Techniques 42.10 (Oct. 1994 [T-MTT]): 2007-2009.

The finite-difference time-domain (FD-TD) method is combined with an appropriate time-frequency discrete conversion technique to analyze packaging and time domain transition effects of microwave and high speed digital circuits. The output response of a given input pulse is obtained by linear convolution of the input signal with time domain system function, which is obtained through FD-TD simulation of the whole packaging system including coaxial to microstrip line transitions. As an example, a shielded microstrip line which is connected with coaxial lines, is analyzed and measured. The comparison between experimental and numerical results shows very a good agreement.

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