Abstracts

Wavelet-based adaptive solution for the nonuniform multiconductor transmission lines

S. Grivet-Talocia and F. Canavero. "Wavelet-based adaptive solution for the nonuniform multiconductor transmission lines." 1998 Microwave and Guided Wave Letters 8.8 (Aug. 1998 [MGWL]): 287-289.

A time-domain technique for the solution of arbitrary nonuniform multiconductor transmission lines (NMTL's) is presented. The technique is based on a weak formulation of the NMTL equations obtained through spatial expansion of the voltage and current vectors into biorthogonal wavelet functions. Wavelets allow adaptive representations of the solution by using few expansion coefficients, with any fixed approximation order. The set of significant expansion coefficients is determined automatically from the solution, which can be computed very efficiently. A numerical example illustrates the high adaptivity of the method.

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