Abstracts

Application of the Two-Dimensional Fourier Transform to Nonlinear Wave Propagation Phenomena

I. Molina-Fernandez, C. Camacho-Penalosa and J.I. Ramos. "Application of the Two-Dimensional Fourier Transform to Nonlinear Wave Propagation Phenomena." 1994 Transactions on Microwave Theory and Techniques 42.6 (Jun. 1994 [T-MTT]): 1079-1085.

A new technique based on the two-dimensional Fourier transform is presented and applied to the study of nonlinear wave propagation phenomena in one-dimensional, finite, nonlinear transmission lines. The technique permits determining the effects of nonlinearities and boundary conditions on the Fourier transform and identifying incident and reflected waves and solitons which may propagate through the transmission line at constant speed. The effects of windows on the Fourier transform are also assessed in both linear and nonlinear transmission line models.

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