Abstracts

A New Element-Saving Equivalent Circuit for the Analysis of General Coupled n-Wire Transmission Lines

M.A. Larsson. "A New Element-Saving Equivalent Circuit for the Analysis of General Coupled n-Wire Transmission Lines." 1991 Transactions on Microwave Theory and Techniques 39.11 (Nov. 1991 [T-MTT]): 1855-1861.

A new efficient method for modeling the general coupled n-wire transmission line is proposed. The equivalent circuit presented in this paper has the following advantages: 1) no balanced lines are needed 2) all element values are positive and 3) the number of elements required by the equivalent circuit is at most equal to the number of nonzero couplings plus one. A simple method for deriving the equivalent circuit is also outlined. A few examples are supplied to show the application of the method.

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