Abstracts

Finite Element Modeling of Two-Dimensional Transmission Line Structures Using a New Asymptotic Boundary Condition

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The finite element method is employed to study open, arbitrarily-configured two-dimensional transmission line structures in the quasi-TEM regime. An improved version of a previously developed asymptotic boundary condition (ABC) is used to truncate the open region. Results for two-and six-conductor configurations are presented to illustrate the superiority of this method over both the conventional approach where a perfectly conducting, enclosure is employed to truncate the FEM mesh, and the original ABC introduced previously by the authors. The results presented are of particular interest for estimating crosstalk and signal distortion in printed circuits.

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