Abstracts

Space Domain Approach for the Analysis of Printed Circuits

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A numerical approach to the solution of printed circuit structures of arbitrary shapes, embedded in a single or multilayer dielectric medium is presented. The electromagnetic fields are described in terms of the classical Sommerfeld integrals. The method of moments has been used to solve the derived integral equations for the surface electric and magnetic currents flowing on the conductors and/or the electric field distribution across the apertures. The matrix pencil technique is employed to decompose the current or the voltage waves along the line into their components like the fundamental modes, higher order modes, etc. The finite structures including discontinuities like bends, T junctions, crossovers, etc. are solved for their scattering parameters utilizing this method. The main advantage of this method is the generality which allows a large variety of problems to be covered.

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