Abstracts

Full-Wave Spectral-Domain Analysis of Coplanar Strips

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In this paper a dynamic analysis of coplanar strips (CPS's) is presented. A spectral-domain stationary expression for the propagation constant has been derived making use of proven concepts of electromagnetic theory (e.g. the "reaction concept"). For the strip surface current distribution, which is the trial quantity in the stationary expression, a suitable approximation is used. The numerical results, obtained in a straightforward and efficient way, are in excellent agreement with results arrived at by means of more complex methods. Further, the characteristic impedance of CPSS has been determined on the base of two commonly used definitions. The numerical results show a novel aspect of the dynamic behavior of the impedance (power-related definition) in the upper frequency region.

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