Abstracts

On the Network Characterization of Planar Passive Circuits Using the Method of Moments

G.V. Eleftheriades and J.R. Mosig. "On the Network Characterization of Planar Passive Circuits Using the Method of Moments." 1996 Transactions on Microwave Theory and Techniques 44.3 (Mar. 1996 [T-MTT]): 438-445.

The issue of characterizing multiport planar circuits using the method of moments is addressed. For this purpose two commonly encountered excitation models, the delta-gap voltage, and the impressed-current ones are considered. The two excitation models are thoroughly examined and the conditions are determined under which they become equivalent. Based on this equivalence, it is shown how to correctly use the models for extracting the required network representation of general multiport planar circuits, possibly having transversely multisegmented ports, in an unambiguous way. Supportive numerical and experimental results for the characterization of shielded planar circuits are also provided.

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