Abstracts

An efficient integral equation solver for the electromagnetic modeling of highly-integrated planar RF/microwave circuits

V.I. Okhmatovski, J. Morsey and A.C. Cangellaris. "An efficient integral equation solver for the electromagnetic modeling of highly-integrated planar RF/microwave circuits." 2002 MTT-S International Microwave Symposium Digest 02.3 (2002 Vol. III [MWSYM]): 1897-1900 vol.3.

An efficient methodology for the accurate calculation of closed-form Green's function in multilayered planar media is combined with the adaptive integral method (AIM) to provide a fast, iterative, full-wave solver for the analysis of complex planar integrated circuits. The computational complexity per iteration and memory requirements for the AIM-based electromagnetic solver scale as O(N log N) and O(N), respectively, where N is the number of unknowns in the discrete model. The accuracy and efficiency of the solver is demonstrated through its application to the modeling of an integrated, planar circuit component.

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