Abstracts

CAD-Oriented Equivalent Circuit Models for Rigorous Full-Wave Analysis and Design of Waveguide Components and Circuits

A. Weisshaar, M. Mongiardo, A. Tripathi and V.K. Tripathi. "CAD-Oriented Equivalent Circuit Models for Rigorous Full-Wave Analysis and Design of Waveguide Components and Circuits." 1996 MTT-S International Microwave Symposium Digest 96.3 (1996 Vol. III [MWSYM]): 1455-1458.

A new multi-mode equivalent circuit model for cascaded waveguide step discontinuities is presented. This CAD-oriented equivalent circuit model enables rigorous and efficient full-wave analysis of waveguide components and circuits entirely by circuit simulation. The method has been implemented on the microwave circuit simulator Libra. Comparisons of circuit simulation results for single and cascaded inductive irises with the standard mode-matching method show perfect agreement. Results of a Ka-band bandpass filter analysis show good agreement with other mode-matching solutions.

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