Abstracts

Full-wave analysis and model-based parameter estimation approaches for Y-matrix computation of microwave distributed RF circuits

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Distributed microwave circuits are analyzed in time domain using the Transmission Line Matrix (TLM) method. System Identification (SI) and Spectral Analysis (SA) methods are used to compute S- and Y-parameters. Model-based approaches to calculate the Y-parameters from truncated signals are presented. The extracted models are compared with running TLM analysis in real-time. In this way a stop criterion for the TLM computation is obtained. Compared with ordinary time-domain simulation the presented method of admittance parameter computation yields a reduction of computation time. The behavior of a microswitch realized via micromachining technique was investigated by using the TLM and the SA (SI) methods.

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