Abstracts

Comparative investigation on numerical de-embedding techniques for equivalent circuit modeling of lumped and distributed microstrip circuits

Lei Zhu and Ke Wu. "Comparative investigation on numerical de-embedding techniques for equivalent circuit modeling of lumped and distributed microstrip circuits." 2002 Microwave and Wireless Components Letters 12.2 (Feb. 2002 [MWCL]): 51-53.

A so-called "short-open calibration" (SOC) technique is applied together with two existing numerical de-embedding techniques for equivalent circuit modeling of microstrip circuits based on a full-wave method-of-moments (MoM) algorithm. A stub-loaded microstrip line discontinuity with both electrically short (lumped) and long (distributed) stub lengths is extensively studied in terms of its Z-matrix circuit model. Our obtained results show that the SOC scheme allows an accurate calibration of all the potential error terms out of the core circuit network, thereby avoiding numerical noise-related behaviors regardless of either lumped or distributed circuits, which are nevertheless observed for the two existing techniques.

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