

Abstracts

Synthesis of Lumped Models from N-Port Scattering Parameter Data (Short Papers)

J.C. Rautio. "Synthesis of Lumped Models from N-Port Scattering Parameter Data (Short Papers)." 1994 Transactions on Microwave Theory and Techniques 42.3 (Mar. 1994 [T-MTT]): 535-537.

A closed form technique is described which allows the synthesis of an N-node lumped network from N-port scattering parameter (S-parameter) data. The synthesis is appropriate for networks where N is very large, for example, high speed digital interconnect networks. The resulting lumped model can be used in SPICE and other simulators. The synthesis is valid for any structure that is small with respect to wavelength. Thus it is also appropriate for synthesizing lumped models of simple discontinuities, such as step junctions and cross junctions. A description of the theory and several examples are provided.

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