Abstracts

Computation of Sensitivities for Optimal Design of Microwave Networks

J.W. Bandler and R. Seviora. "Computation of Sensitivities for Optimal Design of Microwave Networks." 1970 G-MTT International Microwave Symposium Digest of Technical Papers 70.1 (1970 [MWSYM]): 134-137.

In recent contributions, Director and Rohrer discussed the concept of the adjoint network and its relevance to automated design of networks in the frequency and time domains. Employing Tellegen's theorem they demonstrated how the gradient vector for a least squares type of response objective function with respect to all existing (and nonexisting, if desired) elements could be evaluated from only two complete analyses, one of the given network and one of its topologically equivalent adjoint network. In the frequency domain they considered both reciprocal and nonreciprocal lumped, linear and time invariant elements. More recently, it was shown how their approach could be implemented for least pth and minimax response objective functions.

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