Abstracts

CADMIC--Computer-Aided Design of Microwave Integrated Circuits

E. Sanchez-Sinencio and T.N. Trick. "CADMIC--Computer-Aided Design of Microwave Integrated Circuits." 1974 Transactions on Microwave Theory and Techniques 22.3 (Mar. 1974 [T-MTT] (Special Issue on Computer-Oriented Microwave Practices)): 309-316.

A computer program for the analysis and design of distributed lumped circuits, including microwave integrated circuits, is discussed. It is capable of frequency-domain analysis, optimization of transducer power gain, reflection coefficient, and/or noise figure. Also, the program can compute the return difference with respect to any admittance parameter so that the stability of the circuit can be determined by the Nyquist criterion. The program handles complex impedances, resistors, capacitors, inductors, transmission lines, independent current sources and grounded voltage sources, voltage-controlled current sources, and multiport elements, such as transistors and circulators, described by their scattering or admittance parameters. It contains a free-format input. The implementation is based on the indefinite admittance matrix, sparse matrices, adjoint networks, the Fletcher-Powell or Fletcher minimization algorithm, and Bode's feedback theory.

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