Abstracts

A universal parameterized nonlinear device model formulation for microwave circuit simulation

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A new parameterized nonlinear device model formulation is described that enables the same computer code to be used in any circuit analysis type with no charge conservation issues. The parametric description provides great flexibility for the design of nonlinear device models. The number of parameters or state variables required is the minimum necessary and can be chosen to achieve robust numerical characteristics. An example illustrates charge conservation problems that can occur in the transient simulation of microwave circuits if the models are not correctly formulated.

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