Abstracts

Automatic Detection of Hopf Bifurcations on the Solution Path of a Parametrized Nonlinear Circuit

V. Rizzoli and A. Neri. "Automatic Detection of Hopf Bifurcations on the Solution Path of a Parametrized Nonlinear Circuit." 1993 Microwave and Guided Wave Letters 3.7 (Jul. 1993 [MGWL]): 219-220.

A numerical technique for the automatic detection of Hopf bifurcations on the solution path of a continuously parametrized nonlinear circuit operating in time-periodic steady state is discussed. The algorithm is based on the piecewise harmonic-balance technique, is truly general-purpose, and can be applied to any kind of nonlinear microwave subsystem without restrictions on circuit topology and device models. This new software tool is of key importance in the solution of complex CAD problems such as the detection of spurious tones in any nonlinear circuit, and the analysis of the injection locking of oscillators.

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