Abstracts

Local stability analysis of microwave oscillators based on Nyquist's theorem

V. Rizzoli, A. Neri and D. Masotti. "Local stability analysis of microwave oscillators based on Nyquist's theorem." 1997 Microwave and Guided Wave Letters 7.10 (Oct. 1997 [MGWL]): 341-343.

The numerical implementation of Nyquist's theorem for the local stability analysis of forced nonlinear microwave circuits operating in a time-periodic electrical regime is well established. However, the straightforward application of the same algorithm to the stability investigation of autonomous circuits, such as oscillators, may lead to paradoxical results lacking in physical meaning. After demonstrating this by a typical example, we discuss the correct extension of Nyquist's stability analysis to autonomous nonlinear circuits and illustrate the application of the new algorithm to a simple microwave dielectric resonator oscillator (DRO).

❑ Return to main document.