Abstracts

Analysis of noise effects on the nonlinear dynamics of synchronized oscillators

S. ver Hoeye, A. Suarez and S. Sancho. "Analysis of noise effects on the nonlinear dynamics of synchronized oscillators." 2001 Microwave and Wireless Components Letters 11.9 (Sep. 2001 [MWCL]): 376-378.

The higher sensitivity to noise of nonlinear systems near the onset of instability is analyzed here. The analysis is particularized to synchronized oscillators, studying the influence of the proximity to Hopf and Saddle-Node bifurcations. The calculations are compared with former scaling relationships and with results from time-domain integration. The average shift of bifurcation points due to noise perturbations is also analyzed. Two examples are shown: a cubic-nonlinearity oscillator and a 5 GHz hybrid oscillator, for experimental verifications.

❑ Return to main document.