Abstracts

Experimental and Numerical Verification of the Cause of Hopf Bifurcation in a Microwave Doubler

S. Basu, S.A. Maas and T. Itoh. "Experimental and Numerical Verification of the Cause of Hopf Bifurcation in a Microwave Doubler." 1995 Microwave and Guided Wave Letters 5.9 (Sep. 1995 [MGWL]): 293-295.

The appearance of Hopf bifurcation in a microwave doubler is due to the relative speed of the recombination delay of the junction diode with the input RF signal, which results in a dynamical negative resistance. This is verified here experimentally by using a back-to-back diode structure that quenches Hopf bifurcation numerically through stability analysis in the frequency domain.

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