Abstracts

Simulation of a Subharmonic Excitation of Series Integrated Resonant Tunneling Diodes

R. Sun, D.-S. Pan and T. Itoh. "Simulation of a Subharmonic Excitation of Series Integrated Resonant Tunneling Diodes." 1995 Microwave and Guided Wave Letters 5.1 (Jan. 1995 [MGWL]): 18-20.

A subharmonic pulse excitation of an oscillator of series-integrated RTD's is considered and simulated. Linearized considerations are used to analyze the nonlinear system dominated by two major frequencies. A voltage-dependent current source is adopted to separate the input and output power for convenient simulation. Simulations show, for example, a 100-GHz integrated RTD oscillator can be excited by a 50-GHz pulse with 1-ns decay time without the dc instability problem, while a voltage ramp of 1-ns rise or fill time is far too slow to initiate such an oscillator.

❑ Return to main document.