Abstracts

Free-Space RF Triggering of an Active Antenna with Series-Connected Tunneling Diodes

O. Boric-Lubecke, D.-S. Pan and T. Itoh. "Free-Space RF Triggering of an Active Antenna with Series-Connected Tunneling Diodes." 1996 Microwave and Guided Wave Letters 6.8 (Aug. 1996 [MGWL]): 280-282.

Connecting several tunneling diodes--resonant tunneling diodes (RTD's) or tunnel diodes--in series has been shown to be a feasible method for increasing the output power and stability of oscillator circuits using these devices. However, such oscillators require special means of triggering due to biasing difficulties associated with their dc instability. RF triggering was proven to be an effective method of initiating such an oscillation in one-port circuits. An experimental demonstration of free-space RF triggering of an active antenna with a series connection is described here. Active antenna circuits offer excellent isolation between the triggering and oscillation signals and a favorable configuration for spatial power-combining arrays.

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