Abstracts

Reduction of FM Noise in Microwave Diode Oscillators by Cavity and Injection Stabilization

J.R. Ashley and F.M. Palka. "Reduction of FM Noise in Microwave Diode Oscillators by Cavity and Injection Stabilization." 1971 G-MTT International Microwave Symposium Digest of Technical Papers 71.1 (1971 [MWSYM]): 94-95.

The Avalanche or Gunn diode oscillators in simple single resonator circuits usually have considerably more FM noise then Klystron or crystal-oscillator, multiplier-chain type signal sources. Transmission cavity stabilization by TE/sub oln/ mode cavities is applied to both Avalanche and Gunn diode X-Band oscillators to yield simple, useful signal sources with FM noise lower than most other signal sources. Some additional studies show that a cavity stabilized silicon avalanche diode oscillator used as a synchronizing signal to injection phase lock a Gunn oscillator has the best combination of low FM and AM noise.

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