

MM-Wave Frequency Discriminator Aids Reduction of Oscillator Chirp

H. Barth. "MM-Wave Frequency Discriminator Aids Reduction of Oscillator Chirp." 1983 MTT-S International Microwave Symposium Digest 83.1 (1983 [MWSYM]): 133-135.

A 60 GHz frequency discriminator was developed to analyze the transient frequency behaviour and chirp of pulsed Gunn and IMPATT oscillators. The bandwidth and resolution of the discriminator amount to 7 GHz and about 5 $\mu\text{V}/(\text{mW}\cdot\text{MHz})$. To watch centerfrequency and chirp simultaneously while shaping the bias pulse simplifies the tuning procedure of pulsed oscillators significantly. In this manner the chirp of a 5W / 100nsec IMPATT oscillator was tuned to below ± 20 MHz.

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