Abstracts

Comparison of Indirect Optical Injection Locking Techniques of Multiple X-Band Oscillators (1986 [MWSYM])

P. Wahi, Z. Turski, A.S. Daryoush and P.R. Herczfeld. "Comparison of Indirect Optical Injection Locking Techniques of Multiple X-Band Oscillators (1986 [MWSYM])." 1986 MTT-S International Microwave Symposium Digest 86.1 (1986 [MWSYM]): 615-618.

Experimental results of indirect optical injection locking of two X-band oscillators are presented. Large signal modulation of the laser diode generates harmonics, which are employed to synchronize both oscillators over 110°C using an S-band master source. Both laser diode and FET oscillator nonlinearities can be exploited to achieve frequency multiplication and obtain subharmonic injection locking at X-band and above. The merits of these different methods are evaluated based on locking range and FM noise characteristics.

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