Abstracts

Indirect Sub-Harmonic Optical Injection Locking of a Millimeter Wave IMPATT Oscillator (1986 [MWSYM])

A.S. Daryoush, P.R. Herczfeld, A. Rosen, A.K. Sharma and V.M. Contarino. "Indirect Sub-Harmonic Optical Injection Locking of a Millimeter Wave IMPATT Oscillator (1986 [MWSYM])." 1986 MTT-S International Microwave Symposium Digest 86.1 (1986 [MWSYM]): 109-112.

This paper presents results of indirect optical injection locking of a free-running 38GHz (Ka-band) IMPATT oscillator over the locking range of 2 to 132MHz, depending on the injected power level (amplifier gain). In this experiment, The nonlinearity of the both laser diode and the IMPATT, are exploited to achieve twelfth sub-harmonic injection locking. Methods by which optical links may be extended into 60 and 90GHz are demonstrated.

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