Abstracts

Noise Due to Pulse-to-Pulse Incoherence in Injection-Locked Pulsed-Microwave Oscillators. Part II-Effects of Phase-Locking Dynamics

D.G. Anderson, M. Lisak and P.T. Lewin. "Noise Due to Pulse-to-Pulse Incoherence in Injection-Locked Pulsed-Microwave Oscillators. Part II-Effects of Phase-Locking Dynamics." 1985 Transactions on Microwave Theory and Techniques 33.1 (Jan. 1985 [T-MTT]): 20-24.

The problem of noise due to partial pulse-to-pulse coherence in phase-locked pulsed oscillators is investigated. In particular, the analysis includes the dynamic time variation of the phase-locking process. The signal-to-noise ratio of such a system is found to increase as (gamma tau)^2, where gamma is the frequency locking bandwidth and tau is the pulse length. This result corrects a previous conjecture of an exponential dependence on gamma tau.

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