Abstracts

An extremely low noise, phase lockable, sapphire loaded cavity based microwave oscillator

C. Wong, W.F. Miccioli, D.M. Insana and C.A. Drubin. "An extremely low noise, phase lockable, sapphire loaded cavity based microwave oscillator." 1999 MTT-S International Microwave Symposium Digest 99.1 (1999 Vol. I [MWSYM]): 91-94 vol.1.

This paper demonstrates an extremely low noise, phase-lockable microwave oscillator for next generation coherent radar applications. The design, built with commercially available hardware, is comprised of a high-Q sapphire loaded cavity feedback oscillator, a frequency locked loop for noise degeneration, a narrow band phase locked loop geared for noise measurement using the two-oscillator method and a servo loop for temperature stabilization.

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