Abstracts

Cavity Stabilization and Electronic Tuning of a Millimeter-Wave IMPATT Diode Oscillator by Parametric Interaction

H. Okamoto and M. Ikeda. "Cavity Stabilization and Electronic Tuning of a Millimeter-Wave IMPATT Diode Oscillator by Parametric Interaction." 1978 Transactions on Microwave Theory and Techniques 26.6 (Jun. 1978 [T-MTT]): 420-424.

A new technique is proposed by which both noise reduction and electronic tuning of a millimeter-wave solid-state oscillator can be realized by injecting an arbitrary low-frequency (several hundred megahertz or beyond) signal to the oscillator element which is provided with an additional high-Q cavity. This method has much wider tuning bandwidth than that of the conventional subharmordc injection locking technique. Presented are both experimental results and some theoretical interpretations by using an IMPATT diode oscillator.

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