# Abstracts

## A Highly Stabilized GaAs FET Oscillator Using a Dielectric Resonator Feedback Circuit in 9-14 GHz (Aug. 1980 [T-MTT])

*O. Ishihara, T. Mori, H. Sawano and M. Nakatani. "A Highly Stabilized GaAs FET Oscillator Using a Dielectric Resonator Feedback Circuit in 9-14 GHz (Aug. 1980 [T-MTT])." 1980 Transactions on Microwave Theory and Techniques 28.8 (Aug. 1980 [T-MTT]): 817-824.*

A new type of highly stabilized GaAs FET oscillator using a dielectric resonator and a stabilization resistor in the feedback circuit has been developed. The oscillator fabricated with a microwave integrated circuit has a high external quality factor Q/sub ex/ for more than 1000 with no hysteresis phenomena. The microwave characteristics of the GaAs FET oscillator has revealed 1) high efficiency of 20 percent with 70-mW output power at 11.85 GHz, 2) a wide tuning range more than1000 MHz, 3) a wide oscillation frequency from 9 to 14 GHz with same MIC pattern by using five dielectric resonators of different sizes, 4) a high-frequency stability as low as ± 150kHz in the tempature range from -20 to + 60° C, and 5) low FM noise of 0.07 Hz//spl radic/Hz at off-carrier frequency of 100kHz.

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