# Abstracts

## A New Look at Noise in Transferred Electron Oscillators (Dec. 1977 [T-MTT])

*H.R. Gnerlich and J. Ondria. "A New Look at Noise in Transferred Electron Oscillators (Dec. 1977 [T-MTT])." 1977 Transactions on Microwave Theory and Techniques 25.12 (Dec. 1977 [T-MTT] (1977 Symposium Issue)): 977-981.*

Low-frequency current and voltage fluctuations have been measured, and it has been confirmed that noise in packaged transferred electron devices (TED's) is due to three distinct noise mechanisms: flicker, generation-recombination, antd thermal noise. For transferred electron oscillators (TEO's), this low-frequency noise is upconverted into the microwave frequency range and adds to the intrinsic RF noise. We have found that between 1 kHz and 1 MHz off the carrier, temperature-dependent generation-recombination noise is the main contributor to the total noise. A model of a noisy TEO is presented. This model permits the calculation of AM and FM noise spectra from device and circuit parameters for measured low-frequency noise or the derivation of device characteristics from noise and circuit parameter measurements.

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