# Abstracts

## Optoelectronic Microwave Switching via Laser-Induced Plasma Tapers in GaAs Microstrip Sections

*W. Platte. "Optoelectronic Microwave Switching via Laser-Induced Plasma Tapers in GaAs Microstrip Sections." 1981 Transactions on Microwave Theory and Techniques 29.10 (Oct. 1981 [T-MTT]): 1010-1018.*

This paper presents a new type of high-speed optoelectronic GaAs microstrip switch controlled by a pulse-operated laser diode via substrate-edge excitation. The exponential decay of photoconductivity across a longitudinal section of the microstrip forms a laser-induced electron-hole plasma wedge that works as a lossy tapered transmission line. The dynamics of carrier generation and recombination as well as the overall performance of the switch are quantitatively analyzed and optimized. This device is capable of switching with subnanosecond precision as well as with optical pule energies in the order of 1 µJ. Theoretical and experimental results were found to be in good agreement.

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