

Microwave Applications of a Laser-Diode-Based Photoconductive Harmonic Mixer

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We report two microwave applications of a laser-diode-based photoconductive harmonic mixer: (1) Time synchronization and relative phase of two microwave oscillators at 10 GHz to the optical pulse train at 500 MHz; (2) Measurement of the waveform of an optoelectronically phase-locked 12.01 GHz microwave signal as well as the waveform and spectrum of picosecond electrical pulses generated by a step recovery diode via a low-frequency replica.

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