Abstracts

Optoelectronic Pulse Compression of Microwave Signals

P. Paulus, L. Stoll and D. Jager. "Optoelectronic Pulse Compression of Microwave Signals." 1987 Transactions on Microwave Theory and Techniques 35.11 (Nov. 1987 [T-MTT]): 1014-1018.

Optically switched transmission line resonators are shown to generate short microwave pulses of higher output peak power than the CW input signal. This kind of pulse compression is achieved by using the resonator as a storage element and an optoelectronic switch as the output mirror. A theoretical analysis of the efficiency of this device is presented. Experimentally, a peak power enhancement of 14 has been observed at a frequency of 1 GHz. A comparison with numerical results is finally carried out.

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