Abstracts

Fiber-Optic Microwave Transmission Using Harmonic Laser Mixing, Optoelectronic Mixing, and Optically Pumped Mixing (Dec. 1991 [T-MTT])

H. Ogawa and Y. Kamiya. "Fiber-Optic Microwave Transmission Using Harmonic Laser Mixing, Optoelectronic Mixing, and Optically Pumped Mixing (Dec. 1991 [T-MTT])." 1991 Transactions on Microwave Theory and Techniques 39.12 (Dec. 1991 [T-MTT] (1991 Symposium Issue)): 2045-2051.

This paper proposes three fiber-optic link configurations for use in microwave and millimeter-wave signal transmission. Harmonic laser mixing, optoelectronic mixing and optically pumped mixing are successfully utilized to achieve high carrier frequencies in fiber-optic links. The performance of harmonic laser diode mixers is experimentally investigated in the X band. The p-i-n photodiode is used as an optoelectronic microwave mixer and an optically pumped microwave mixer, and the microwave characteristics of these mixers are demonstrated. These three fiber-optic link configurations show promise in transmitting microwave and millimeter-wave frequencies.

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