Abstracts

Optical Polarization Effect in Discrete Time Fiber-Optic Structures for Microwave Signal Processing

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We report the effect of the optical polarization in discrete time fiber-optic devices for microwave signal processing applications. Experimental results show that even in the incoherent working regime of these devices, the polarization state of the optical carrier can strongly affect the overall microwave response. A new analysis based on the optical S-matrix representation is developed in order to model correctly these devices. It is found that the optical polarization can be exploited efficiently for tuning the microwave response.

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