Abstracts

LED-Induced Distributed Bragg Reflection Microwave Filter with Fiber-Optically Controlled Change of Center Frequency via Photoconductivity Gratings (Short Papers)

W. Platte. "LED-Induced Distributed Bragg Reflection Microwave Filter with Fiber-Optically Controlled Change of Center Frequency via Photoconductivity Gratings (Short Papers)." 1991 Transactions on Microwave Theory and Techniques 39.2 (Feb. 1991 [T-MTT]): 359-363.

A light-induced distributed Bragg reflection band-reject microwave filter is reported in which the grating elements are optoelectronically generated through periodic-structure photoexcitation of a silicon coplanar waveguide. The center frequency can be optically adjusted to 11 GHz and 22 GHz, respectively, by means of a pattern-controlled fiber bundle array fed from six CW-operated 50 mW, 840 nm LED's. Experimental results are in good agreement with theoretical predictions. The principle of operation demonstrated also applies to millimeter-wave integrated circuits.

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