

## Theoretical & Experimental Study of Single Mode Fiber Optical Ring Resonators for Microwave Applications

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The propagation effects of a microwave intensity modulated light in a fiber based optical ring resonator are studied. Experimental and theoretical investigations on the microwave behavior of the device show the possibility of its use as a microwave filter. Significant changes on the microwave behavior are observed when using a coherent light source due to optical interferences of the light carrier. The concept of optical scattering parameters is applied in order to model the microwave behavior of the device.

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