# Abstracts

## Degenerate parametric amplification in an optoelectronic GaAs CPW-to-slotline ring resonator

*Jong-Chul Lee, H.F. Taylor and Kai Chang. "Degenerate parametric amplification in an optoelectronic GaAs CPW-to-slotline ring resonator." 1997 Microwave and Guided Wave Letters 7.9 (Sep. 1997 [MGWL]): 267-269.*

Nonlinear optical-microwave mixing is performed in an uniplanar CPW-to-slotline ring resonator on a semi-insulating GaAs substrate, in which a Schottky photodetector is monolithically integrated as a coupling gap. The parametric amplification effect of the mixer occurs when the capacitive reactance of the detector is modulated. In this structure, a parametric amplification gain of 20 dB, without the applied bias in the radio frequency (RF) signal, is obtained. This microwave optoelectronic mixer can be used in fiber-optic communication links.

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