

# Abstracts

## An 8-18-GHz all-optical microwave downconverter with channelization

---

S.J. Strutz and K.J. Williams. "An 8-18-GHz all-optical microwave downconverter with channelization." 2001 *Transactions on Microwave Theory and Techniques* 49.10 (Oct. 2001, Part II [T-MTT] (Special Issue on Microwave and Millimeter-Wave Photonics)): 1992-1995.

A wide-band fiber-optic image-rejection downconverter capable of channelizing received signals into a 500-MHz intermediate frequency band is demonstrated. The downconverter utilizes phase modulators to convert received signals into optical side-bands prior to heterodyne detection with the system local oscillator. Experimental measurements performed on a two-channel system which maps 8-18-GHz signals into intermediate frequencies between 2 and 2.5 GHz reveal an image rejection of 20 dB and a spur-free dynamic range of 107 dB/Hz<sup>2/3</sup>.

[Return to main document.](#)