Abstracts

Linearized Modulator for Suboctave-Bandpass Optical Analog Links

G.E. Betts. "Linearized Modulator for Suboctave-Bandpass Optical Analog Links." 1994 Transactions on Microwave Theory and Techniques 42.12 (Dec. 1994, Part II [T-MTT] (1994 Symposium Issue)): 2642-2649.

The spurious-free dynamic range of a suboctave externally modulated optical analog link can be improved (to >140 dB Hz/sup 4/5/) with modest received optical power and little noise figure penalty by using a simple linearized modulator. Its design consists of two standard Mach-Zehnder interferometric modulators in series, and so can operate at microwave frequencies. This paper develops standardized measures of linearized modulator performance, and uses them to evaluate the modulator; link examples are also given. A simple experiment verifies the basic theoretical predictions.

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