Abstracts

Distortion in Linearized Electrooptic Modulators

W.B. Bridges and J.H. Schaffner. "Distortion in Linearized Electrooptic Modulators." 1995 Transactions on Microwave Theory and Techniques 43.9 (Sep. 1995, Part II [T-MTT] (Special Issue on Microwave and Millimeter Wave Photonics)): 2184-2197.

Intermodulation and harmonic distortion are calculated for a simple fiber-optic link with a representative set of link parameters and a variety of electrooptic modulators: simple Mach-Zehnder, linearized dual and triple Mach-Zehnder, simple directional coupler (two operating points), and linearized directional coupler with one and two dc electrodes. The resulting dynamic ranges, gains, and noise figures are compared for these modulators. A new definition of dynamic range is proposed to accommodate the more complicated variation of intermodulation with input power exhibited by linearized modulators. The effects of noise bandwidth, preamplifier distortion, and errors in modulator operating conditions are described.

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