Abstracts

Noise and Intermodulation Distortion Reduction in an Optical Feedforward Transmitter

B. Buxton and R. Vahldieck. "Noise and Intermodulation Distortion Reduction in an Optical Feedforward Transmitter." 1994 MTT-S International Microwave Symposium Digest 94.2 (1994 Vol. II [MWSYM]): 1105-1108.

Feedforward linearization of optical transmitters for cable television distribution using low-cost Fabry-Perot lasers is discussed. In our previous work we have used expensive, low-noise and highly linear DFB lasers to satisfy CATV specifications for a 150 channel system. In this paper the potential of the feedforward scheme to not only eliminate harmonic distortion but also to reduce laser relative intensity noise (RIN) is utilized to meet CATV specifications with noisy but low-cost Fabry-Perot lasers. Measurements of the system have shown an average CNR of 50dB, distortion products lower than -60dBc and an average RIN reduction of 10dB.

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