Abstracts

A 10 Gb/s Optical Heterodyne Detection Experiment Using a 23 GHz Bandwidth Balanced Receiver (Dec. 1990 [T-MTT])

N. Takachio, K. Iwashita, S. Hata, K. Onodera, K. Katsura and H. Kikuchi. "A 10 Gb/s Optical Heterodyne Detection Experiment Using a 23 GHz Bandwidth Balanced Receiver (Dec. 1990 [T-MTT])." 1990 Transactions on Microwave Theory and Techniques 38.12 (Dec. 1990 [T-MTT] (1990 Symposium Issue)): 1900-1905.

A balanced receiver for multigigabit per second coherent optical transmission systems is described. A balanced optical receiver with a frequency bandwidth of 23 GHz is achieved by connecting an lnGaAs twin-p-i-n pbotodiode to a fabricated 0.5-30 GHz GaAs monolithic distributed amplifier with a solder bump flip-chip interconnection technique. An experiment is conducted which proves that this receiver has the potential for use in 10 Gb/s optical CPFSK heterodyne detection systems.

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