

Photo-Parametric Amplifier/Converter in Subcarrier Multiplexed Lightwave Communication Systems

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In this paper we shall report a novel type of low noise receiver for optical communication. The photo-parametric amplifier/converter maybe used as part of a conventions wideband receiver, offering improved noise performance, or as a low noise detector/converter in a microwave subcarrier-multiplexed optical communication system. The receiver is based on the photo-parametric mode of operation, where a photo-detector is pumped at microwave frequencies and photo-detection and parametric amplification are achieved simultaneously in a single device. Frequency conversion/amplification is also possible to suit particular system applications.

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