Abstract

In order to satisfy the ever rising demand for the bandwidth requirement in broadband services the Coherent orthogonal frequency division multiplexing (COFDM) method is being considered as a promising technique for future high-capacity optical networks. The aim of this proposed is to investigate, theoretically, the feasibility of implementing the coherent optical OFDM (CO-OOFDM) technique in extensive transmission networks. For CO-OOFDM and Fast-OFDM systems a set of modulation formats dependent analog to digital converter (ADC) cutting ratio and the quantization bit have been identified, moreover, CO-OOFDM is additionally resilient to the chromatic dispersion (CD) when compared to the bandwidth efficient Fast-OFDM scheme. Also proposed adaptive equalization and ANN to reduce overhead problem in training symbol.

References

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**Index Terms**

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Adaptive equalizer, coherent detection, orthogonal frequency division multiplexing.