

## **Performance Analysis of Next Generation OCDM-RoF-Based Hybrid Network under Diverse Conditions**

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**Abstract :** This paper demonstrates OCDM-ROF based hybrid architecture where data/voice communication is enabled via a permutation of Optical Code Division Multiplexing (OCDM) and Radio-over-Fiber (RoF) techniques under various diverse conditions. OCDM-RoF hybrid network of 16 users with DPSK modulation format has been designed and performance of proposed network is analyzed for 100, 150, and 200 km fiber span length under the influence of linear and nonlinear effect. It has been reported that Polarization Mode Dispersion (PMD) has the least effect while other nonlinearity affects the performance of proposed network.

**Keywords :** OCDM, RoF, DPSK, PMD, eye diagram, BER, Q factor

**Conference Title :** ICEWC 2015 : International Conference on Electronics and Wireless Communication

**Conference Location :** Miami, United States

**Conference Dates :** March 09-10, 2015