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| **Title:** | 3.52 TBPS HYBRID OFDM WDM PON COVERING 120-KM LONG- REACH DISTANCE USING 4-ARY QAM & DIRECT DETECTION TECHNIQUE FOR BEYOND NG-PON-2 APPLICATIONS | | |
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| **Abstract:** |  |
| This paper proposes a Wavelength Division Multiplexed, Orthogonal Frequency Division Multiplexed Passive Optical Network (WDM-OFDM-PON) utilizing 4-ary Quadrature Amplitude Modulation (QAM). This paper investigates  the system by evaluating the effect on Optical Signal Noise Ratio (OSNR), Error Vector Magnitude (EVM) and Power Loss in both Optical Line terminal (OLT) and Optical Network Unit (ONU). The Direct Detection Technique approach  achieves data rate of 55 Gb/s while maintaining sufficiently low Bit Error Rate (BER) securing IEEE standard. Through this endeavour a single feeder PON consisting of 64 channels is designed with unprecedented capacity of 3.52 Tb/s over a transmission distance of 120km. considering the results achieved, the capacity obtained is the most supreme compared to other WDM-OFDM-PON systems so far. | |