|  |  |  |  |
| --- | --- | --- | --- |
| **Title:** | Performance Analysis of 16-Channel Hybrid WDM- CSRZ-DQPSK PON for Different Transmission Speeds and Distances | | |
| **Author(s) Name:** | I. S. Bristy and M. N. Uddin | | |
| **Contact Email(s):** | drnasir@aiub.edu | | |
| **Published Journal Name:** | AIUB Journal of Science and Engineering (AJSE), | | |
| **Type of Publication:** | Journal | | |
| **Volume:** | 19 | Issue | 1 |
| **Publisher:** | AJSE | | |
| **Publication Date:** | April 2020 | | |
| **ISSN:** | p-ISSN 1608-3679, e-ISSN 2520-4890 | | |
| **DOI:** | 10.53799/ajse.v19i1.51 | | |
| **URL:** | https://doi.org/10.53799/ajse.v19i1.51 | | |
| **Other Related Info.:** | Page 19-24 | | |
|  | | | |

|  |  |
| --- | --- |
| **Abstract:** |  |
| Sixteen channel wavelength-division-multiplexed passive optical network (WDM-PON) based on one Mach-Zehnder modulator and carrier suppressed return to zero differential quadrature phase-shift keying (CSRZ-DQPSK) transmitter is designed and evaluated for various bit rates (20 Gbps to 80 Gbps). The effect of changes in transmission distance with increased bit rate is also discussed and hence quality factors and bit error rates are analyzed to evaluate their performances. The relation between transmission distance, quality factor (Q factor) and bit error rate (BER) have been focused to determine optimized result. | |