Abstract

In this work, physical layer impairments and their impacts on transparent optical networks is studied. Among the impairments we mainly focused on in band crosstalk and try to incorporate its effect in the DWDM process. BER due to component crosstalk in a WDM receiver has been studied and computed results are shown by simulation as a function of number of interfering channel. A new design is developed for efficient data path provisioning with guaranteed QoT in terms of BER. This design is particularly very useful for high speed WDM/DWDM networks where, these impairments are high. The result shows that our crosstalk aware design reduces network blocking probability, utilizes network resources and give better quality of transmission as comparison to impairment unaware design.

References


Index Terms

Computer Science
Communications

Keywords

DWDM  OEO  RWA  Dispersion Compensation  Linear loss