Abstract

In this paper, a simulative experimental set up for OWDM communication system consist of two 4- optical channels with channel spacing of 0. 1THz interconnected by means of a 2x2 OXC (an OXC with 2 input ports and 2 output ports) to route the data with less delay and high throughput is analyzed under the impact of laser line-width and modulator's chirp over the crosstalk introduced in OWDM system. Our results show that by using OXC, we can minimize the power degradation introduced in OWDM system due to crosstalk. In addition, the impact of laser line-width and modulator's chirp can not be ignored in reducing the crosstalk while dealing with long haul optical communication systems. The OWDM system is also reported under the influence of crosstalk at different bit rate varying from 1Gbps to 10Gbps in this work.

References

- J. Hecht, "All optical networks need optical switches", Laser Focus World 5
Crosstalk Analysis under the Impact of Line-width and Chirp in 8×10 GBPS WDM System Incorporating Optical Cross-Connector


**Index Terms**

Computer Science

Wireless Communications

**Keywords**

- Optical Cross-Connector (OXC)
- Crosstalk
- Laser line-width
- Modulator's chirp
- Optisim simulation software