Performance Comparison of Intelligent and Delay-Based Optical Multiplexers

Multidimensional multiplexing technologies have been proven to be a promising scheme to meet the demands of high-capacity optical interconnects and optical processing networks.

We have designed, fabricated and packaged three integrated optical switching delay line (OSDL) chips based on SOI (The waveguide core thickness is 220 nm and 3 µm respectively) and ...

Static and dynamic mea-surements were performed for verification of the DLs" performance in the wavelength and time domain. Additionally, a comparison between the simulation and ...

To evaluate the performance of our proposed system, we conducted experiments demonstrating parallel signal transmission using up to 15 wavelength channels within the C-band.

Consequently, multidimensional optical multiplexing has emerged as a pivotal enabling technology. However, the development of compact, cost-effective, and scalable multidimensional ...

The delay tuning in ODLs is enabled by either changing the group refractive index of the waveguide or changing the length of the optical path. This paper reviews the recent development of integrated ...

The filtering performance of Bragg grating-based OADMs is studied by using theoretical system simulations. The implications of the non-optimum spectral characteristics of the coupler based OADM ...

Here, we develop a novel design approach that co-optimizes inverse-designed wavelength division multiplexers and distributed Bragg gratings to achieve ultra-low crosstalk without compromising ...

Integrated on-chip ODLs exhibit multiple advantages compared to bulk optics or fiber-based ODLs, such as reduced cost, size, weight, and power consumption. The miniaturization of ODL components also ...

The performance comparison of various multiplexers is shown in table I. In this performance comparison considered number of transistors count, power, delay and PDP parameters.

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