Exploitation of nonlinear material based tree-net architecture in alloptical demultiplexing scheme

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Abstract
In the field of optical interconnecting network and in super fast photonic computing system, the tree architecture and optical nonlinear materials play significant roles. Nonlinear optical material may find important uses in optical switching. Optical switch using nonlinear material makes it possible for one optical signal to control and switch another optical signal through nonlinear interaction in a material. In this communication such materials have been exploited to design an optical tree-net architecture, which can be utilized for demultiplexing scheme in all-optical domain.
Subject terms: optical demultiplexer, optical switch, nonlinear material, optical tree.

Focusing Properties of Energy Dispersive Exa;fs Beamline At Indus-2 SRS Using Additional Optical Elements

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Abstract
An Extended X-ray Absorption Fine Structure (EXAfs0 beamiline using a bent crystal polychromator is being developed at INDUS -2 Synchrotron Radiation Facility. One of the proposed activities with this beamline is to record the EXAFS soectra of materials under high pressure For this purpose x-rays originating from the synchrotron source are to be perfectly facaused on the experimental samples having sizes of the order of few micrometers. Extensive ray tracing work has been carried out for studying the imaging properties of this beamline using the software program SHADOW. It has mirrors in the form of elliptic cylinders are included in the beamiline lay-out.

A New Approach of Long Distance All-Optical Switching Mechanism By Interaction Between two Gaussian Pulses in
Transverse Mode Propagated Through An Optical Waveguide

Prasanta Mandal and Sourangshu Mukhopadyyay

Abstract
In this communication we propose an analytical nodel of phase sensitifve transverse interaction between two orthogonally polarized Gaussian pulses. To realize it we consider a Gaussian pulse propagating through on electro optic modulator. Using polarizer we first decompose it into two linearly orthogonal polarized waves. Then the orthogonal components of the pulses move through the optical fiber. By controlling the applied voltage across the modulator and controlling the ratio of length to width of the modulator we can change the phase relation between the pulses. With the method a switching at a very long distance can be organized in the optical fiber.