Solar ion implanted glass

Can ion implantation and laser annealing be used in silicon photonics?
Although ion implantation and localised laser annealing represent very accurate procedures for trimming resonant wavelengths and do not require any additional fabrication steps for electrical heaters fabrication,electrical annealing is popular and is expected to become mainstream in silicon photonics.

What is the ion implantation process?
The ion implantation process was carried out at the Ion Beam Centre at the University of Surrey. An ion energy value of 130 keV and a dose of 1 × 10 15 ions/cm 2 were used in order to efficiently implant Ge into silicon and create deeper implantation in the silicon waveguides, based on our previous studies . 2.2. Annealing

Can silicon ion implantation and annealing be used for ring resonators?
In addition,Ge ion implantation and annealing are also demonstrated to enable post-fabrication trimming of ring resonatorsand Mach-Zehnder interferometers and to implement nonvolatile programmable photonic circuits. 1. Introduction Silicon photonics is currently a commercially established and yet fast-growing technology for communication systems.

Can ion implantation reduce extinction ratio and resonant wavelength of optical filters?
Therefore,by utilising ion implantation technology and localised annealing,it is possibleto induce localised refractive index changes and,therefore,trim the extinction ratio and resonant wavelength of fabricated optical filters.

Cross sections of ion-implanted samples with nonplanar topography were studied by secondary electron microscopy and compared to samples annealed in a conventional furnace or a ...

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When ion post-embedding treatment was used, more light passed through the glass compared with normal FTO glass, leading to a noticeable performance enhancement of this ...

Germanium (Ge) ion implantation into silicon waveguides will induce lattice defects in the silicon, which can eventually change the crystal silicon into amorphous silicon and ...

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This AR enhancement makes ion-implanted glass ideal for display panels, solar panels, and optical applications requiring superior light transmission. Advantages of Ion Implantation for ...

ABSTRACT As a well-known technique for material modification, ion implantation has become an effective method to fabricate waveguide in optical glasses. The guiding ...

This AR enhancement makes ion-implanted glass ideal for display panels, solar panels, and optical applications requiring superior light transmission. ...

The ion implantation process imposes strict requirements on the radiation resistance, insulation, and chemical stability of special glass components in high-energy ion ...

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