Birefringent fiber optic sensing technology

This paper presents a novel scheme to online measure the birefringence of the sensing fiber in all-fiber optic current transformer (AFOCT) system, which monitors the current on direct current (DC) ...

The high sensitivity fiber-optic temperature sensor was realized by taking advantage of the high thermo-optic effect of PDMS-filled PCF. The results showed that the sensitivity of the ...

This study presents an innovative approach to pressure sensing by utilizing an 8-shaped birefringent optical fiber fabricated through a mechanical milling technique. The proposed sensor ...

This result demonstrates the feasibility of using this all-fiber device as a temperature sensor for many applications that demands very precise and reliable measurements.

Recent advances in devices and applications of high-birefringence fiber loop mirror sensors are addressed. In optical sensing, these devices may be used as strain and temperature ...

Birefringent filters (usually, Lyot filters) have passed from discrete implementations in volumetric free-space lasers to fiber-optical design in fiber-based systems, where they are used as selectors and ...

A fiber optic current sensor based on a polarization-rotated reflected interferometer has been constructed. A special spun highly birefringent fiber is designed and achieved for the sensor by ...

Effective elimination methods have been developed based on two types of optical fibers, including the spun high-birefringent optical fiber and the low-birefringent optical fiber.

This work aims to develop a network of FBG sensors inscribed in a section of PM optical fibers to simultaneously discriminate temperature and radial strain variations at different locations on ...

The promising features of the proposed sensor make it a suitable candidate for integrating with the lab-on-a-fiber technology, developing fiber interferometer as well as fabricating portable biochemical ...

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