Characteristics of Ultrasonic Fiber Optic Sensors

Due to the suspended fiber structure, the sensor presents high sensitivity to UW loading, which allows the freely suspended fiber to be stretched and compressed easily. By spectral side-band filtering ...

A new type of optical fiber underwater acoustic sensor (hydrophone) constructed with two fiber Bragg gratings (FBG) and a self-demodulation method is presented in this paper.

In response to these issues, optical fiber ultrasonic sensors, with their compact size, robust anti-electromagnetic interference capability , and excellent biocompatibility, have emerged ...

Qiao Xue-Guang, Shao Zhi-Hua, Bao Wei-Jia, Rong Qiang-Zhou. Fiber-optic ultrasonic sensors and applicationsJ. Acta Physica Sinica, 2017, 66 (7): 074205. DOI: 10.7498/aps.66.074205

We provide an overview of the ultrasound sensing mechanisms employed by these microcavities and discuss the key parameters for optimizing ultrasound sensors.

Ultrasonic detection methods are vital in industrial and medical applications due to their non-radiative, sensitive, and high-resolution properties. Here, we propose a novel compact fiber ...

The proposed fiber-optic acoustic sensor demonstrates unique advantages in terms of immunity to electromagnetic interference, miniaturization, and high spatial resolution.

The small size, high sensitivity, and immunity to electromagnetic interference of fibre-optic ultrasound sensors make them highly attractive for applications in biomedical imaging and metrology. ...

The sensing principle of the proposed structure was studied theoretically, and its ultrasonic response characteristics were investigated by experiments.

In this paper, two types of fiber optic ultrasonic sensor using various PMFs are compared and analyzed for the ultrasonic detection of GIS faults. The simulation based on FEM enables the evaluation of the ...

Web: https://www.prospettivacasa.eu