Weak signal from fiber Bragg grating sensor

For experimental verification, ultra-weak fiber Bragg gratings (uwFBGs) with reflectivity of -50 dB are applied to construct a hydrophone array with 800 sensors, and a vibratory liquid column method is ...

The paper reports the results of a study of the point defects and weak fiber Bragg gratings strength characteristics created for distributed sensor systems, depending on the parameters of the ...

Therefore FBG is essentially a sensor of temperature and strain but, by designing the proper interface, many other measurements can be made to impose perturbation on the grating resulting in a shift in ...

A high speed quasi-distributed demodulation method based on the microwave photonics and the chromatic dispersion effect is designed and implemented for weak fiber Bragg gratings (FBGs).

A dispersion compensation fiber (DCF) changes the beat frequency within the FBG wavelength range. With a crossing microwave sweep, all wavelengths of cascade FBGs can be quickly decoded by ...

A novel distributed weak fiber Bragg gratings (FBGs) vibration sensing system has been designed to overcome the disadvantages of the conventional methods for optical fiber sensing...

In this work, we propose and demonstrate a microwave photonics enabled approach for the interrogation of cascaded FBGs to achieve spatially distributed sensing.

However, the signal transmitted from the human body lying on the bed to the sensor through the monitoring pad will produce loss, resulting in a weak cardiopulmonary signal monitored ...

In order to improve the demodulation accuracy of the tunable F-P filter, the Hilbert transform is introduced into the Gauss fit algorithm to solve the problem of sidelobe or peak distortion ...

To achieve the large-multiplexing capability, identical weak fiber Bragg grating (WFBG) sensors typically adopt a short grating length to reduce the reflectivity. However, the corresponding broadband ...

Web: https://safireschools.co.za