

Working principle of fiber optic SPR sensor type D

Preview

The sensor employs a side-polished few-mode PCF that facilitates the transmission of the fundamental and second-order modes, with an integrated microfluidic channel positioned directly above the fiber core. A novel surface plasmon resonance (SPR) refractive index (RI) sensor based on the D-type dual-mode photonic crystal fiber (PCF) is proposed. It's a device that converts light rays into electronic signals. Think of it like a photoresistor, which changes its resistance based.

After covering the basic details of the working principle, coupling configuration, detection scheme, and various design

SPR is an extremely sensitive optical technique used to detect molecular interactions without using labels. It has many

Since the introduction of optical fiber technology in the field of sensor based on the technique of surface plasmon

We propose and demonstrate a dual-channel surface plasmon resonance (SPR) sensor based on the side-polished

Abstract Optical fiber surface plasmon resonance (SPR) sensors are commonly utilized in chemical and biological

In this work, for the first time, the application of Principal Component Analysis (PCA) to process Surface Plasmon

This study introduces a Surface Plasmon Resonance (SPR) refractive index sensor based on a D-shaped Polarization

In the present work, we have investigated the capability of different bimetallic combinations to be used in a fiber optic

Surface plasmon resonance (SPR) sensors-based optical fibers have attracted significant interest due to their unique

Surface Plasmon Resonance (SPR) fiber sensor research has grown since the first demonstration over 20 year

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ago

In this review article, we present the principle of SPR technique for sensing and various designs of the fiber optic SPR

1.1 Introduction to Fiber Optic SPR Sensor In recent decades, a wide range of sensing applications based on optical fiber inter

Surface plasmon resonance (SPR) is one of the fundamental mechanisms that allows optical fibre sensors to be

These sensors are embedded within or are part of the fiber optic system, resulting in modifications to the optical fiber itself. The fiber

Abstract With the urgent demand of low concentration molecular detection, an innovative solution is presented to

This paper describes simulation and experimental methods for designing a D-shaped surface plasmon resonance

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