Optics & Photonics

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Fiber Optic pH Sensor Amplification Circuit

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	Fig. 2 shows a schematic of the basic components of an optical (or fiber optic) sensor system, including the analyte, the optical platform, and signal processing (electronics and software) ...
	The pulse of light from a light emitting diode (LED) is coupled into optical fiber and transmitted to a pH sensitive membrane. The membrane changes its absorbance (colour) in dependence on pH of the ...
	We compared the performance of the proposed optical-fiber PWM pH-sensing systems with different pH sensors: potentiometric, optical-fiber modal interferometer, and optical-fiber Fabry–Perot ...
	A fiber-optic pH sensor, based on layer-by-layer (LBL) self-assembly and surface plasmon resonance (SPR) technology, is proposed and experimentally confirmed.
	Abstract: A novel all-polymer fiber-optic pH sensor using a UV-cured pH-sensitive hydrogel, poly(ethylene glycol) diacrylate (PEGDA), coated on a polymer fiber Bragg grating was developed.

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Here, we present the development of compact pH fiber probes by integrating silica optical fiber with a colorimetric pH indicator. Our approach involves cross-linking the pH indicator...

images for the cross-section of the pH sensors based on deionized water, DMSO, isopropanol, and ethanol as the red dye''s solvents, respectively. Figure S3. Light intensity measurements for the four ...

The document describes the development of a fiber optic pH sensor that uses a sol-gel technique to immobilize organic pH indicators in a silica matrix coated as a thin film on a porous glass optical fiber.

Optical fiber sensors have proven highly effective for pH detection due to their exceptional sensitivity, rapid response, and resistance to electromagnetic interference, making them well suited ...

We compared the performance of the proposed optical-fiber PWM pH-sensing systems with different pH sensors: potentiometric, optical-fiber modal ...

This work uses the membrane made of cellulose acetate membrane for reagent immobilization and congo red (pKa 3.7) and neutral red (pKa 7.2) as pH ...

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	The proposed optical-fiber PWM pH-sensing system offers a linear sensing response over a wide range of pH values from 2 to 12, with a high pH-sensing ability. The sensitivity of the proposed pH sensor is ...
	The unique characteristics of pH-sensitive materials of changing color with pH values and hydrogel of swelling were combined to achieve the pH-sensing capabilities of the proposed sensors.

Contact Us

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