Fiber Optic Chloride Ion Sensor

Preview

This portable optical fiber sensor is capable of detecting chloride ions in both water and soil environments simultaneously with high sensitivity, excellent stability, rapid response time and resistance to ion interference. Detecting the concentration of chloride ions in water and soil is of great significance for understanding chloride behavior in the ocean and monitoring environmental pollutants. It resulted in fluorescence quenching after g-CNQDs were modulated by silver ions (Ag +).

A new sensor based on a suspended core optical fiber was developed to detect the chloride in concrete, in which lucigenin is selected as a fluorescence sensitive material for chloride. A

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This paper presents the development and assessment of two individual optical fiber sensing systems either for monitoring chloride concentration or pH range in structural health

To address these challenges, this work introduces a fluorescent-probe-based fiber optic sensor for monitoring chloride levels in concrete

We conducted an experimental study on an off-on fluorescence optical fiber probe utilizing graphitic carbon nitride quan-tum dots (g-CNQDs) -doped hydrogel for chloride ion detection. It resulted in

A new sensor based on a suspended core optical fiber was developed to detect the chloride in concrete, in which lucigenin is selected as a fluorescence sensitive material for chloride.

Fluorescent optical fiber sensors offer potential for chloride ion monitoring in concrete because of their ease of use and compact dimensions, but they continue to grapple with challenges

A new approach to anion sensing is presented using Cl - as a model species. The sensing electrode is an optical fiber with Bragg Grating (FBG) whose surface is coated with gold ultra

To address these issues, this study developed a fluorescent fiber optic sensor for non-destructive detection of chloride ion concentration in cement-based materials.

This study delves into the development and assessment of a new chloride ion sensor employing optical fiber technology. It investigates the response characteristics of Ag-coated optode

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The developed optical fiber sensor can lower the effect of preferential flows induced by the buried sensors and is promising for the applications in model tests and in situ conditions.

Objective of our work is to demonstrate a new approach to chemical sensing. It is based on an optical probe using optical fiber with Brag Grating (FBG) coated with specific metal whose surface is

A fiber optic probe for the simultaneous measurement of chloride ions and temperature is presented. The Ag/alginate composite film is used as the reflective surface of the Fabry-Perot

This portable optical fiber sensor is capable of detecting chloride ions in both water and soil environments simultaneously with high sensitivity, excellent stability, rapid response time and

This sensor is based on the fluorescence quenching of an acridinium dye, which is covalently bound to polymer substrates, in presence of chloride ions.

To address these challenges, this work introduces a fluorescent-probe-based fiber optic sensor for monitoring chloride levels in concrete structures. Quinine sulfate was chosen as the fluorescent

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