Fiber Optic Sensor Crack Monitoring

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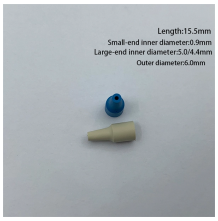
15 prevention, this paper presents the performance of an innovative optical fibre patch sensor that 16 can be embedded or glued on the concrete''s surface. The sensor is composed of a fabric 17 ...

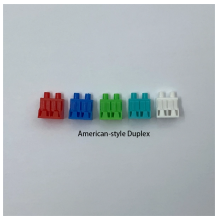
This paper presents an approach to enable automatic interpretation of crack measurements from distributed fiber optic sensors based on machine learning. The crack ...



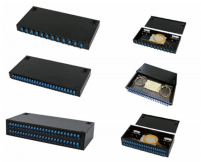
Cracks can negatively affect the durability of concrete structures, making effective crack monitoring crucial for maintenance. Utilizing coherent optical frequency domain reflectometry, it is ...

Monitoring of cracks and crack growth rates is a crucial aspect of structural health monitoring for concrete infrastructure, and multiple manual and automatic monitoring techniques ...

In this presentation, we will describe recent developments on a fiber optic crack sensor that allows the detection and monitoring of multiple cracks without requiring prior knowledge of crack locations.



Distributed fiber optic sensors enable detecting, locating, quantifying, and visualizing cracks. Scientific principles, influencing factors, methods, and applications of DFOS are reviewed. ...



The possibility to measure strains continuously using distributed fiber optic sensors (DFOS) offers enormous potential for structural health monitoring. Cracks can be automatically detected, localized ...

Fibre optics, supplemented by conventional measuring technology, was able to detect elastic strain, crack formation and decisive shear cracks of the fracture state.

Abstract The ability to measure strains quasi-continuously with high spatial resolution makes distributed fiber optic sensing a promising technology for structural health monitoring as it allows to locate and ...

Fiber Bragg grating has embraced the area of fiber optics since the early days of its discovery, and most fiber optic sensor systems today make use of fiber Bragg grating technology. Researchers have ...

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