

The Federal Railroad Administration (FRA) sponsored a research team from Oklahoma State University (OSU) to assess how well Optical Fiber Sensors (OFS), specifically Fiber Bragg ...

In this work, we propose the concept of the Smart Rail, an innovative system for the continuous monitoring of the track geometry based on embedded arrays of Fiber Bragg Grating ...

This article, authored by ENSCO and Oklahoma State University researchers in collaboration with the Federal Railroad Administration, examines how fiber optic-based track monitoring can deliver real ...

Enhance railway safety and efficiency with Sensonic's Track Condition Monitoring. Utilising fiber optic sensing and AI-driven analytics, detect track issues early, optimise maintenance, and ensure ...

This article reviews the current state-of-the-art of fiber optic sensing/monitoring technologies, including the basic principles of various optical fiber sensors, novel sensing and ...

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The optical fiber sensor can detect vibration (dynamic strain change) and static strain change (pressure) along a railway track, detecting intrusion events and their location on the track.

Our monitoring solutions are based on DFOS, which is rapidly becoming the detection method of choice. With our solution, existing track-side telecommunication and fiber optic signaling cables can be ...

Finally, FOS was used on the new ICE line between Erfurt and Halle to monitor both the tracks and train movements. The technology successfully passed all three tests.

In this study, bolt loosening in a railway track sample has been investigated using distributed acoustic fiber-optic sensing. This approach leverages vibration signals from load-rail ...

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