Fiber optic cables are affected by geological subsidence

All these applications are inherent in geological engineering and civil infrastructure. This paper reviews the application and challenges of using fiber optic-based distributed acoustic sensing arrays for ...

Experimental results reveal significant differences in residual deformation characteristics of deep soil in mining subsidence areas between deep and shallow coal seams.

This study focuses on Dangshan County, Anhui Province, China, and systematically analyzes the spatio-temporal evolution of land subsidence from ...

Quantifying Fiber-Optic Cable-Soil Interfacial Behavior Toward Distributed Monitoring of Land Subsidence

Note a growing consensus has suggested that ground 40 subsidence occurs lagging behind the pumping activity (Kearns et al., 2015), and the duration 41 of land subsidence induced by deep ...

When people think about fiber optic cables, it"s usually about how they"re used for telecommunications and accessing the internet. But fiber optic cables--strands of glass or plastic...

This study focuses on Dangshan County, Anhui Province, China, and systematically analyzes the spatio-temporal evolution of land subsidence from 2018 to 2024.

The most recent developments in optical fibre-based sensing systems are discussed based on geological hazard monitoring. This includes a discussion of the fundamentals of optical ...

Figure 2. Land subsidence in Tianjin. (a) Comparison between optical fiber (OF) and extensometer at different depths. (b) Historical land subsidence in Tianjin from 1985 to 2019 (R. Hu et al., 2002; B. Hu ...

The monitoring of subsurface ground movement is important for the prevention and control of geological disaster including land subsidence, ground fissure, surface collapse, and ...

Here we perform laboratory pullout tests using a self-devised apparatus to investigate the interaction mechanism between FO cable and soil under confining pressures (CPs) up to 1.6 MPa.

Within the past decades, distributed fiber optic sensing (DFOS) technology has been successfully applied in monitoring the deformation of geostructure and in assessment of the severity ...

Wu et al. (2015) initiated a study on applying FOS to land subsidence monitoring in Suzhou, China, where a

complex multi-aquifer system has been over-drafted during recent decades. The fully ...

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