

Distributed Fibre Optic Strain Sensing For Monitoring Civil Infrastructure

A practical guide

Cambridge Centre for Smart Infrastructure and Construction

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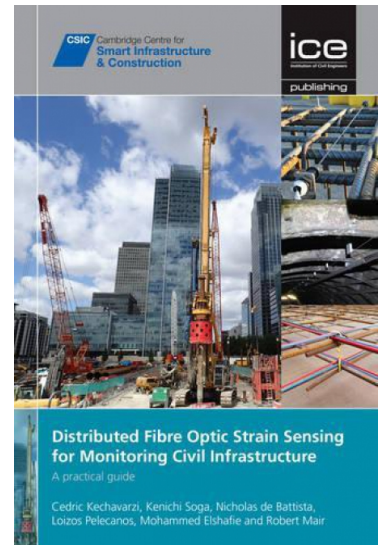
About the Book

Distributed Fibre Optic Strain Sensing for Monitoring Civil Infrastructure offers comprehensive guidance in the current developments of distributed optical fibre sensing applied to the field of civil engineering. The book discusses the concepts and practice of fibre optic monitoring of infrastructure and construction within the underground and geotechnical industry through real-life case studies in tunnel and pile monitoring, diaphragm-walls and slopes and embankments. Smart monitoring for performance-based design is increasingly being recognised as an essential tool for improving construction processes, delivering efficiency and reducing over-specification.

Distributed Fibre Optic Strain Sensing for Monitoring Civil Infrastructure

- provides in-depth knowledge of Brillouin sensing, including DFOSS and BOTDR/A
- includes highly illustrated real-world case studies
- explores an innovative, economic and effective solution to performance monitoring
- discusses practical considerations such as cable types, methods of attachment, cable handling and installation planning and testing.

Written by experts at the Cambridge Centre for Smart Infrastructure and Construction (CSIC), this book highlights the main issues and offers guidance on how to correctly and efficiently determine the specifications for a distributed strain sensing system, examines fibre optic data analysis, the conversion to engineering parameters and how to interpret results.



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