

1. Record Nr.	UNINA9910731470503321
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Titolo	Ground-Based Radar in Structural Design, Optimization, and Health Monitoring of Stationary and Rotating Structures // by Francis Xavier Ochieng
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2023
ISBN	3-031-29008-9
Edizione	[1st ed. 2023.]
Descrizione fisica	1 online resource (227 pages)
Disciplina	624.171
Soggetti	Engineering geology Water-power Wind power Surveying Telecommunication Geoengineering Hydroenergy Wind Energy Microwaves, RF Engineering and Optical Communications
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Sensors for structural health monitoring -- Ground-based radar (GBR) overview -- The working theory of GBR -- Signal processing of GBR data -- Deflection and modal analysis of GBR data -- Methodology in GBR field applications -- Case study: Application of GBR for non-rotary systems -- Case study: Application of GBR for onshore operating wind turbines -- The future of GBR -- Appendix A: GBR Matlab codes -- Appendix B: Answers to chapter specific questions -- Appendix C : OMA diagrams.
Sommario/riassunto	This book provides a practical application for using ground-based radar (GBR) as a remote (non-contact) sensor for structural health monitoring (SHM) in the development of sustainable and robust stationary and rotating structures, such as beam-like bridges, towers, wind turbines, and hydropower turbines. It integrates cutting-edge

research into an easy-to-understand approach for non-radar and monitoring specialists, building on the methods and theory of working with radar systems, SHM frameworks, GBR signal processing, and validation techniques. All aspects of in-field monitoring and use during the design and testing of structures are covered, including data acquisition and processing, damage detection techniques, and damage prognostic techniques. The book is a hands-on reference that provides critical information on GBR for practitioners, university instructors, and students involved in structural design, optimization, and health monitoring of stationary and rotating structures. The first book dedicated to ground-based radar for structural health monitoring; Provides worked-out exercises, comprehensive case studies, and numerous examples; Establishes the use of a 3-tier SHM framework in the context of non-contact sensors.

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