1. Record Nr. UNINA9910350340703321

Autore	Du Yanliang
Titolo	Optical Fiber Sensing and Structural Health Monitoring Technology [[electronic resource] /] / by Yanliang Du, Baochen Sun, Jianzhi Li, Wentao Zhang
Pubbl/distr/stampa	Singapore : , : Springer Singapore : , : Imprint : Springer, , 2019
ISBN	981-13-2865-X
Descrizione fisica	1 online resource (363 pages) : illustrations
Disciplina	681.25
Soggetti	Materials Building construction Structural Materials Building Materials Measurement Science and Instrumentation
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Optical fiber sensing and intelligent structure -- Optical fiber sensing and intelligent structure -- Fiber Bragg grating sensor with temperature compensation -- Prestressed tendons stress testing technology based on Fiber Bragg grating sensor array -- Cable stress measurement technology based on Fiber Bragg grating sensor array -- Winding optic fiber strain sensing technology -- Monitoring technology of fiber reinforced composite component based on Fiber Bragg grating -- Distributed optical fiber sensing technology based on Brillouin scattering -- Piezoelectric materials and piezoelectric smart structures -- Study on the characteristics of the dynamic stress transformer -- Study on the characteristics of piezoelectric strain sensor -- Vibration monitoring of bridge based on piezoelectric strain sensor technology -- Real-time monitoring of railway wheel / rail force based on piezoelectric strain sensor -- Introduction of shape memory alloys -- Intelligent material structure for automatic monitoring and active control of crack growth -- Intelligent material structure forf automatic load, anti - release and anti - breaking -- Adaptive seamless railway based on shape memory alloy -- Long term health monitoring and

	alarm system of Wuhu Yangtze River bridge -- Remote vibration monitoring system of the ZhengzhouYellow River Bridge -- The monitoring system of the Liao River Bridge in Qin-Shen Passenger Dedicated Linen.
Sommario/riassunto	This book focuses on optical fiber sensing and structural health monitoring technologies. It provides detailed information on the basic theory of F-P optical fiber sensors, fiber Bragg grating sensors, fiber laser grating sensors and fully distributed optical fiber sensors. Drawing on the authors' research achievements and many years of practical experience in the field of engineering structure health monitoring, the book elaborates on the structural principle, design and manufacture of optical fiber sensors and monitoring technologies, and briefly describes advances made with regard to multiple engineering structures.