1. Record Nr. UNINA9910254318903321

Titolo	Modeling and Monitoring of Pipelines and Networks : Advanced Tools for Automatic Monitoring and Supervision of Pipelines / / edited by Cristina Verde, Lizeth Torres
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2017
ISBN	3-319-55944-3
Edizione	[1st ed. 2017.]
Descrizione fisica	1 online resource (X, 264 p. 152 illus., 47 illus. in color.)
Collana	Applied Condition Monitoring, , 2363-698X ; ; 7
Disciplina	388.55
Soggetti	Vibration Dynamical systems Dynamics Engineering geology Engineering—Geology Foundations Hydraulics Physics Quality control Reliability Industrial safety Vibration, Dynamical Systems, Control Geoengineering, Foundations, Hydraulics Numerical and Computational Physics, Simulation Quality Control, Reliability, Safety and Risk
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	From the Content -- Introduction -- An Overview of Transient Fault Detection Techniques Xinge Xu and Bryan Karney -- Numerical Issues and Approximated Models for the Diagnosis of Transmission Pipelines.
Sommario/riassunto	This book focuses on the analysis and design of advanced techniques for on-line automatic computational monitoring of pipelines and pipe

networks. It discusses how to improve the systems' security considering mathematical models of the flow, historical flow rate and pressure data, with the main goal of reducing the number of sensors installed along a pipeline. The techniques presented in the book have been implemented in digital systems to enhance the abilities of the pipeline network's operators in recognizing anomalies. A real leak scenario in a Mexican water pipeline is used to illustrate the benefits of these techniques in locating the position of a leak. Intended for an interdisciplinary audience, the book addresses researchers and professionals in the areas of mechanical, civil and control engineering. It covers topics on fluid mechanics, instrumentation, automatic control, signal processing, computing, construction and diagnostic technologies.