

1. Record Nr.	UNINA9910350311003321
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Titolo	Decision-making analysis and optimization modeling of emergency warnings for major accidents [[electronic resource] /] / by Wenmei Gai, Yan Du, Yunfeng Deng
Pubbl/distr/stampa	Singapore : , : Springer Singapore : , : Imprint : Springer, , 2019
ISBN	981-13-2871-4
Edizione	[1st ed. 2019.]
Descrizione fisica	1 online resource (xi, 168 pages) : illustrations
Disciplina	004.678
Soggetti	Quality control Reliability Industrial safety Fire prevention Emergency medicine Computers Operations research Management science Quality Control, Reliability, Safety and Risk Fire Science, Hazard Control, Building Safety Emergency Services Information Systems and Communication Service Operations Research, Management Science
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Emergency warning system for major accidents -- Communication and Diffusion of emergency warning -- Investigation and analysis of regional evacuation characteristics -- Multi-objective route planning model and algorithm for emergency management -- Evacuation risk assessment of regional evacuation for major accidents and its application in emergency planning. .
Sommario/riassunto	This book highlights cutting-edge research into emergency early warning management and decision-making for severe accidents. Using toxic gas leakages as examples, it puts forward new design methods

for emergency early warning systems, as well as a systematic description of emergency early warning information communication mechanisms and characteristics of regional evacuation, based on a wide range of theories, including safety engineering, information engineering, communication, behaviorology and others. The book applies a range of methods, such as case analysis, questionnaire interviews, and multi-objective optimization modeling. Drawing on this basis, it subsequently proposes a multi-objective optimization modeling and algorithm for emergency path selection, together with an evacuation risk assessment method. Divided into six chapters prepared by an international team of researchers, the book addresses the design of early warning systems, communication and dissemination mechanisms of early warning information, characteristics of regional evacuation, multi-objective optimization of emergency paths, and evacuation risk assessment. ----- The book offers an essential reference guide for engineering technicians and researchers in a wide range of fields, including emergency management, safety science and engineering, disaster relief engineering, and transportation optimization, as well as graduate students in related majors at colleges and universities.
