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Soggetti	Transportation engineering Traffic engineering Security systems Operations research Management science Multibody systems Vibration Mechanics, Applied Mathematical optimization Calculus of variations Signal processing Transportation Technology and Traffic Engineering Security Science and Technology Operations Research, Management Science Multibody Systems and Mechanical Vibrations Calculus of Variations and Optimization Signal, Speech and Image Processing
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Sommario/riassunto

Safe and high-efficiency operation are two main issues in rail transportation. This book focuses on these two key issues, bringing together a wealth of research to offer theoretical and technical support for rail operations and maintenance. In addition, it presents a comprehensive active safety assurance system for rail transportation, which includes the quantitative state identification and prediction of train components; rail transportation safety and reliability assessment methods; and rail transportation risk assessment at the rail networks level, which achieves the quantitative and high-precision monitoring of complex systems in real-time. In addition, it extends active safety based theory to safety prognostic analysis in the traffic system. Lastly, representative case studies verify that the theory is suitable for the actual traffic system.