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Nota di contenuto	Section One: Disaster Prevention and Mitigation Design and Research -- Random Dynamic Reliability of Inter-story Isolation Structure -- Stability Analysis and Support Design of Left Bank Slope in the Front of Kala Hydropower Dam -- System probabilistic stability analysis of slopes using Gaussian process regression via structured meshing of Finite element method -- Study on Drainage Design of Large-span Heavy Load Roof in Cold Area -- Wind-resistant Design of a Complicated Multi-tower Super Tall Building -- Design and Aplication of Intelligent Flood Control System during the Construction Period of Navigation and Hydropower Junction -- Landslide Stability Analysis and Support Program Design for Huangzhuang Village -- Landslide Stability

Analysis and Support Program Design for Mufota Village -- Stability analysis and design of support scheme for the landslide in Zhanshi Gully -- Research on the Design Method of Long-Span Continuous Steel Box Girder -- Demolition Scheme Design of a Three-span Continuous Box Girder Bridge -- Section Two: Disaster Prevention and Mitigation for Infrastructure -- Study on the Pavement Performance of Demolished Waste Lime Soils Restabilized with Lime -- Weight Correction of Bridge Substructure in Underwater Environment Based on Analytic Hierarchy Process -- Seismic Performance Analysis of High Pier Continuous Rigid Frame Bridge in High Seismic Zone -- Numerical Simulation of Reservoir Dredging -- Numerical simulation study on the influence of deep foundation pit construction in weak sand layer on existing bridges -- Study on the Limit State Reliability Indices of Bridge Piers under Chloride Ion Erosion and Freeze-Thaw Environments -- Structural Analysis of Different Combined-System Bridges with Cable-Stayed Bridge without back cables -- Experimental Study on Pre-Strengthening of Large Section Water-Rich Loose Sandstone Tunnel by Horizontal Rotary Jet Pile -- Stability Analysis of Mixed Granite Highway Slope under Disturbance and Rainfall -- Analysis of external water pressure distribution in deep-buried tunnels under complex geological conditions -- Seismic Performance of Prefabricated End-reinforced Socket Bridge Piers -- Seismic Response of Continuous Girder Bridges Considering Pounding between the Girder and Abutment under Near-fault Ground Motions -- Study on Bridge Damage Identification Based on Contact Point Acceleration Response and Variational Mode Decomposition -- Calculation of Flow Rate in the Three Gorges Reservoir Area and Tts Impact on Sedimentation in the Reservoir Area -- Three-dimensional Numerical Simulation Assessment of Damage Behavior of Road Tunnels with Different Void Directions behind the Lining -- Mechanism of Strength Formation and Composition Design of Fly Ash and Carbide Slag Stabilised Mine Solid Waste Roadbase with Full Solid-waste Reusing -- Development and Application of Multi-Parameter Monitoring Equipment for TBM Tunnel Surrounding Rock -- Safety Protection Technology and Its Application in Urban Road Bridge Structures -- Applicability of PG Graded Asphalt Engineering for Cold Region Roads -- The Treatment Evaluation of Airbag Grouting Technology in Buried Tunnel Collapse.

Sommario/riassunto

This book is a comprehensive and in-depth research work that delves into the critical area of disaster prevention and mitigation strategies for infrastructure. It provides a wide range of sectors, including water conservancy, bridges, roads, tunnels, and power infrastructure, providing a holistic view of the challenges and solutions in ensuring the resilience and safety of these essential facilities. This book, divided into eight sections, systematically explores infrastructure dimensions from design to material research. Initial sections establish safe design and disaster prevention principles, emphasizing durable infrastructure. Practical strategies for construction quality are provided through project analysis. The middle sections delve into concrete materials and structures, detailing performance characteristics and mix optimization, crucial for engineers. The concluding sections focus on water conservancy, highlighting its role in disaster prevention and the benefits of integrating advanced technologies for project development and management. The book is not only a valuable resource for academic researchers but also a practical guide for engineering technicians and professionals in the field. For scholars and practitioners engaged in related research and development, this book is an indispensable addition to their reference library, providing a comprehensive and up-to-date overview of the latest trends and

technologies in infrastructure disaster prevention and mitigation.