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MODERN RAILWAY TRACK

GEOTECHNICAL ENGINEERING HANDBOOK

J. Ross Publishing The Geotechnical Engineering Handbook brings together essential information related to the evaluation of engineering properties of soils, design of foundations such as spread footings, mat foundations, piles, and drilled shafts, and fundamental principles of analyzing the stability of slopes and embankments, retaining walls, and other earth-retaining structures. The Handbook also covers soil dynamics and foundation vibration to analyze the behavior of foundations subjected to cyclic vertical, sliding and rocking excitations and topics addressed in some detail include: environmental geotechnology and foundations for railroad beds.

PRACTICAL RAILWAY ENGINEERING (2ND EDITION)

Imperial College Press This textbook covers the very wide spectrum of all aspects of railway engineering for all engineering disciplines, in a 'broad brush' way giving a good overall knowledge of what is involved in planning, designing, constructing and maintaining a railway. It covers all types of railway systems including light rail and metro as well as main line. The first edition has proved very popular both with students new to railways and with practicing engineers who need to work in this newly expanding area. In the second edition, the illustrations have been improved and brought up to date, particularly with the introduction of 30 colour pages which include many newly taken photographs. The text has been reviewed for present day accuracy and, where necessary, has been modified or expanded to include reference to recent trends or developments. New topics include automatic train control, level crossings, dot matrix indicators, measures for the mobility impaired, reinforced earth structures, air conditioning, etc. Recent railway experience, both technical and political, has also been reflected in the commentary.

HANDBOOK OF RAILWAY VEHICLE DYNAMICS, SECOND EDITION

CRC Press Handbook of Railway Vehicle Dynamics, Second Edition, provides expanded, fully updated coverage of railway vehicle dynamics. With chapters by international experts, this work surveys the main areas of rolling stock and locomotive dynamics. Through mathematical analysis and numerous practical examples, it builds a deep understanding of the wheel-rail interface, suspension and suspension component design, simulation and testing of electrical and mechanical systems, and interaction with the surrounding infrastructure, and noise and vibration. Topics added in the Second Edition include magnetic levitation, rail vehicle aerodynamics, and advances in traction and braking for full trains and individual vehicles.

COMPUTERS IN RAILWAYS XV

RAILWAY ENGINEERING DESIGN AND OPERATION

WIT Press This title incorporates the 15th proceedings of the very successful International Conference on Railway Engineering Design and Operation (COMPRAIL) series, which began in Frankfurt 1987 and continued in Rome (1990); Washington (1992); Madrid (1994); Berlin (1996); Lisbon (1998); Bologna (2000); Lemnos (2002); Dresden (2004); Prague (2006); Toledo (2008); Beijing (2010); the New Forest, home of the Wessex Institute (2012) and, again in Rome in 2014. The papers presented at this conference aim to update the use of advanced systems, promoting their general awareness throughout the management, design, manufacture and operation of railways and other emerging passenger, freight and transit systems. With the conference attracting a variety of specialists, including railway engineers, designers of advanced train control systems and computer specialists, the book particularly emphasises the use of computer systems in advanced railway engineering. Topics include but are not restricted to: Advanced train control Operations quality; Risk management; Planning and policy; Energy supply and consumption; Communications and signalling; Operational planning; Interface management; Systems integration; Maglev; High speed technology; Interoperability; Passenger flow management; Computer simulations and Driverless and automatic train operation.

TRACK DESIGN HANDBOOK FOR LIGHT RAIL TRANSIT

Transportation Research Board TCRP report 155 provides guidelines and descriptions for the design of various common types of light rail transit (LRT) track. The track structure types include ballasted track, direct fixation ("ballastless") track, and embedded track. The report considers the characteristics and interfaces of vehicle wheels and rail, tracks and wheel gauges, rail sections, alignments, speeds, and track moduli. The report includes chapters on vehicles, alignment, track structures, track components, special track work, aerial structures/bridges, corrosion control, noise and vibration, signals, traction power, and the integration of LRT track into urban streets.

ANALYTICAL METHODS IN PETROLEUM UPSTREAM APPLICATIONS

CRC Press Effective measurement of the composition and properties of petroleum is essential for its exploration, production, and refining; however, new technologies and methodologies are not adequately documented in much of the current literature. Analytical Methods in Petroleum Upstream Applications explores advances in the analytical methods and instrumentation that allow more accurate determination of the components, classes of compounds, properties, and features of petroleum and its fractions. Recognized experts explore a host of topics, including: A petroleum molecular composition continuity model as a context for other analytical measurements A modern modular sampling system for use in the lab or the process area to collect and control samples for subsequent analysis The importance of oil-in-water measurements and monitoring The chemical and physical properties of heavy oils, their fractions, and products from their upgrading Analytical measurements using gas chromatography and nuclear magnetic resonance (NMR) applications Asphaltene and heavy ends analysis Chemometrics and modeling approaches for understanding petroleum composition and properties to improve upstream, midstream, and downstream operations Due to the renaissance of gas and oil production in North America, interest has grown in analytical methods for a wide range of applications. The understanding provided in this text is designed to help chemists, geologists, and chemical and petroleum engineers make more accurate estimates of the crude value to specific refinery configurations, providing insight into optimum development and extraction schemes.

TRANSPORT INFRASTRUCTURE AND SYSTEMS

PROCEEDINGS OF THE AIIT INTERNATIONAL CONGRESS ON TRANSPORT INFRASTRUCTURE AND SYSTEMS (ROME, ITALY, 10-12 APRIL 2017)

CRC Press Transport Infrastructure Asset management in transport infrastructure, financial viability of transport engineering projects/ Life cycle Cost Analysis, Life-Cycle Assessment and Sustainability Assessment of transport infrastructure/ Infrastructures financing and pricing with equity appraisal, operation optimization and energy management/ Low-Volume roads: planning, maintenance, operations, environmental and social issues/ Public-Private Partnership (PPP) experience in transport infrastructure in different countries and economic conditions/ Airport Pavement Management Systems, runway design and maintenance/ Port maintenance and development issues, technology relating to cargo handling, landside access, cruise operations/ Infrastructure Building Information Modelling (I-BIM) / Pavement design and innovative bituminous materials/ Recycling and re-use in road pavements, environmentally sustainable technologies/ Stone pavements, ancient roads and historic railways/ Cementitious stabilization of materials used in the rehabilitation of transportation infrastructure. Transport Systems Sustainable transport and the environment protection including green vehicles/ Urban transport, land use development, spatial and transport planning/ Bicycling, bike, bike-sharing systems, cycling mobility/ Human factor in transport systems/ Intelligent Mobility: emerging technologies to enable the smarter movement of people and goods/Airport landside: access roads, parking facilities, terminal facilities, aircraft apron and the adjacent taxiway/ Transportation policy, planning and design, modelling and decision making/ Transport economics, finance and pricing issues, optimization problems, equity appraisal/ Road safety impact assessments, road safety audits, the management of road network safety and safety inspections/ Tunnels and underground structures: preventing incidents-accidents mitigating their effects for both people and goods/ Traffic flow characteristics, traffic control devices, work zone traffic control, highway capacity and quality of service/ Track-vehicle interactions in railway systems, capacity analysis of railway networks/ Risk assessment and safety in air and railway transport, reliability aspects/ Maritime transport and inland waterways transport research/ Intermodal freight transport: terminals and logistics.

DESIGN AND CONSTRUCTION OF MODERN STEEL RAILWAY BRIDGES

CRC Press This new edition encompasses current design methods used for steel railway bridges in both SI and Imperial (US Customary) units. It discusses the planning of railway bridges and the appropriate types of bridges based on planning considerations.

RAIL QUALITY AND MAINTENANCE FOR MODERN RAILWAY OPERATION

Springer Science & Business Media In April 1990 a conference was held at the Cracow Institute of Technology, Cracow, Poland. The title of that conference was "Residual Stresses in Rails - Effects on Rail Integrity and Railroad Economics" and its themes were the measurement and prediction of residual stresses in rails, but, as the sub-title suggests, the intention was also to provide a link between research and its application to the practical railway world. At the Cracow conference there were 40 participants with 5 railways and 5

rail makers being represented and 25 papers were given. The Cracow conference was a success, and by March 1991 its off-spring, "The International Conference on Rail Quality and Maintenance for Modern Railway Operations", was conceived and birth was ultimately given in June 1992 at the Technical University, Delft. It turned out to be some baby, with 112 delegates from 24 countries taking part! As with its predecessor, the conference was to provide a forum for the exchange of ideas between research investigators, rail makers and railway engineers. A cursory examination of the list of participants suggests that about 57% were from the railway industry, 34% from universities and other research institutions and 9% from the steel industry. Bearing in mind that some of the railway industry participants were from their respective research and development organisations the balance of interests was about right.

EVOLUTIONARY COMPUTATION IN PRACTICE

Springer This book is loaded with examples in which computer scientists and engineers have used evolutionary computation - programs that mimic natural evolution - to solve many real-world problems. They aren't abstract, mathematically intensive papers, but accounts of solving important problems, including tips from the authors on how to avoid common pitfalls, maximize the effectiveness and efficiency of the search process, and many other practical suggestions.

COMPUTERS IN RAILWAYS XI

COMPUTER SYSTEM DESIGN AND OPERATION IN THE RAILWAY AND OTHER TRANSIT SYSTEMS

WIT Press This volume features the proceedings of the Eleventh International Conference on Computer System Design and Operation in the Railway and other Transit Systems. It provides the latest information on the use of computer-based techniques, and promotes a general awareness of these throughout the business management, design, manufacture and operation of railways and other advanced passenger, freight and transit systems. Of interest to railway managers, consultants, railway engineers (including signal and control engineers), designers of advanced train systems and computer specialists, the proceedings will also be of interest to planners of railway network systems, manufacturers of the track, rolling stock, locomotives and other ancillary equipment and systems; who all have a common interest in the development and application of computer techniques for the solution of problems in the railway and other mass transit systems. Papers included in this volume cover the following topics: Planning; Safety and security; Passenger interface systems; Decision support systems, Computer techniques; Driverless operations; Advanced train control; Train location; Dynamic train regulations; Timetable planning; Operations quality; Communications, Energy management; Power supply; Dynamics and wheel/rail interface; Freight; Condition monitoring; Asset management; Maglev and high speed railway.

LIFE-CYCLE OF ENGINEERING SYSTEMS: EMPHASIS ON SUSTAINABLE CIVIL INFRASTRUCTURE

PROCEEDINGS OF THE FIFTH INTERNATIONAL SYMPOSIUM ON LIFE-CYCLE CIVIL ENGINEERING (IALCCE 2016), 16-19 OCTOBER 2016, DELFT, THE NETHERLANDS

CRC Press This volume contains the papers presented at IALCCE2016, the fifth International Symposium on Life-Cycle Civil Engineering (IALCCE2016), to be held in Delft, The Netherlands, October 16-19, 2016. It consists of a book of extended abstracts and a DVD with full papers including the Fazlur R. Khan lecture, keynote lectures, and technical papers from all over the world. All major aspects of life-cycle engineering are addressed, with special focus on structural damage processes, life-cycle design, inspection, monitoring, assessment, maintenance and rehabilitation, life-cycle cost of structures and infrastructures, life-cycle performance of special structures, and life-cycle oriented computational tools. The aim of the editors is to provide a valuable source for anyone interested in life-cycle of civil infrastructure systems, including students, researchers and practitioners from all areas of engineering and industry.

RAILWAY NOISE AND VIBRATION

MECHANISMS, MODELLING AND MEANS OF CONTROL

Elsevier Railways are an environmentally friendly means of transport well suited to modern society. However, noise and vibration are key obstacles to further development of the railway networks for high-speed intercity traffic, for freight and for suburban metros and light-rail. All too often noise problems are dealt with inefficiently due to lack of understanding of the problem. This book brings together coverage of the theory of railway noise and vibration with practical applications of noise control technology at source to solve noise and vibration problems from railways. Each source of noise and vibration is described in a systematic way: rolling noise, curve squeal, bridge noise, aerodynamic noise, ground vibration and ground-borne noise, and vehicle interior noise. Theoretical modelling approaches are introduced for each source in a tutorial fashion. Practical applications of noise control technology are presented using the theoretical models. Extensive examples of application to noise reduction techniques are included. Railway Noise and Vibration is a hard-working reference and will be invaluable to all who have to deal with noise and vibration from railways, whether working in the industry or in consultancy or academic research. David Thompson is Professor of Railway Noise and Vibration at the Institute of Sound and Vibration Research, University of Southampton. He has worked in the field of railway noise since 1980, with British Rail Research in Derby, UK, and TNO Institute of Applied Physics in the Netherlands before moving to Southampton in 1996. He was responsible for developing the TWINS software for predicting rolling noise. Discusses fully the theoretical background and practical workings of railway noise. Includes the latest research findings, brought together in one place. Forms an extended case study in the application of noise control techniques.

RAILWAY TRANSPORTATION SYSTEMS

DESIGN, CONSTRUCTION AND OPERATION

CRC Press Incorporates More Than 25 Years of Research and Experience. Railway Transportation Systems: Design, Construction and Operation presents a comprehensive overview of railway passenger and freight transport systems, from design through to construction and operation. It covers the range of railway passenger systems, from conventional and high speed inter

5TH INTERNATIONAL PHD SYMPOSIUM IN CIVIL ENGINEERING

Taylor & Francis

STRUCTURAL HEALTH MONITORING 2003

FROM DIAGNOSTICS & PROGNOSTICS TO STRUCTURAL HEALTH MANAGEMENT : PROCEEDINGS OF THE 4TH INTERNATIONAL WORKSHOP ON STRUCTURAL HEALTH MONITORING, STANFORD UNIVERSITY, STANFORD, CA, SEPTEMBER 15-17, 2003

DEStech Publications, Inc Important new information on sensors, monitoring, prognosis, networking, and planning for safety and maintenance.

USING THE ENGINEERING LITERATURE, SECOND EDITION

CRC Press With the encroachment of the Internet into nearly all aspects of work and life, it seems as though information is everywhere. However, there is information and then there is correct, appropriate, and timely information. While we might love being able to turn to Wikipedia® for encyclopedia-like information or search Google® for the thousands of links on a topic, engineers need the best information, information that is evaluated, up-to-date, and complete. Accurate, vetted information is necessary when building new skyscrapers or developing new prosthetics for returning military veterans. While the award-winning first edition of Using the Engineering Literature used a roadmap analogy, we now need a three-dimensional analysis reflecting the complex and dynamic nature of research in the information age. Using the Engineering Literature, Second Edition provides a guide to the wide range of resources available in all fields of engineering. This second edition has been thoroughly revised and features new sections on nanotechnology as well as green engineering. The information age has greatly impacted the way engineers find information. Engineers have an effect, directly and indirectly, on almost all aspects of our lives, and it is vital that they find the right information at the right time to create better products and processes. Comprehensive and up to date, with expert chapter authors, this book fills a gap in the literature, providing critical information in a user-friendly format.

RAILWAY ENGINEERING

Railway Engineering has been specially designed for undergraduate students of civil engineering. From fundamental topics to modern technological developments, the book covers all aspects of the railways including various modernization plans covering tracks, locomotives, and rolling stock. Important statistical data about the Indian Railways and other useful information have also been incorporated to make the coverage comprehensive. A number of illustrative examples supplement text to aid easy understanding of design methods discussed. The book should also serve the need of students of polytechnics and those appearing of the AMIE examination and would also be a ready reference for railway professionals.

COMPUTERS IN RAILWAYS X

COMPUTER SYSTEM DESIGN AND OPERATION IN THE RAILWAY AND OTHER TRANSIT SYSTEMS

WIT Press This book updates the use of computer-based techniques, promoting their general awareness throughout the business management, design, manufacture and operation of railways and other advanced passenger, freight and transit systems. Including papers from the Tenth International Conference on Computer System Design and Operation in the Railway and Other Transit Systems, the book will be of interest to railway management, consultants, railway engineers (including signal and control engineers), designers of advanced train control systems and computer specialists. Themes of interest include: Planning; Human Factors; Computer Techniques, Management and languages; Decision Support Systems; Systems Engineering; Electromagnetic Compatibility and Lightning; Reliability, Availability, Maintainability and Safety (RAMS); Freight; Advanced Train Control;

Train Location; CCTV/Communications; Operations Quality; Timetables; Traffic Control; Global Navigation using Satellite Systems; Online Scheduling and Dispatching; Dynamics and Wheel/Rail Interface; Power Supply; Traction and Maglev; Obstacle Detection and Collision Analysis; Railway Security.

RAIL INTERNATIONAL

RAILWAY MANAGEMENT AND ENGINEERING

Routledge In a rapidly changing world, with increasing competition in all sectors of transportation, railways are in a period of restructuring their management and technology. New methods of organization are introduced, commercial and tariff policies change radically, a more entrepreneurial spirit is required. At the same time, new high-speed tracks are being constructed and old tracks are renewed, high-comfort rolling stock vehicles are being introduced, logistics and combined transport are being developed. Awareness of environmental issues and search for greater safety give to the railways a new role within the transportation system. Meanwhile, methods of analysis have significantly evolved, principally due to computer applications and new ways of thinking and approaching old problems. Therefore it becomes necessary to come up with a new scientific approach to tackle management and engineering aspects of railways, to understand in-depth the origins and inter-relationships of the various situations and phenomena and to suggest the appropriate methods and solutions to solve the various emerging problems. This book aims to cover the need for a new scientific approach for railways. It is written for railway managers, economists and engineers, consulting economists and engineers, students of schools of engineering, transportation and management. The book is divided into three distinct parts: Part A deals with the management of railways, Part B deals with the track and, Part C deals with rolling stock and environmental topics. Each chapter of the book contains the necessary theoretical analysis of the phenomena studied, the recommended solutions, applications, charts and design of the specific railway component. In this way, both the requirement for a theoretical analysis is met, and the need of the railway manager and engineer for tables, nomographs, regulations, etc. is satisfied. Railways in Europe have separated activities of infrastructure from those of operation. In other parts of the world, however, railways remain unified. The book addresses both situation. Railways present great differences in their technologies. Something may be valid for one such technology, but not for another. To overcome this problem, regulations of the International Union of Railways (UIC) as well as European Standardization (CEN) have been used to the greatest extent possible. Whenever a specific technology or method is presented, the limits of its application are clearly emphasized.

INTEGRATIVE ONCOLOGY

PRINCIPLES AND PRACTICE

CRC Press Integrative Oncology explores a comprehensive, evidence-based approach to cancer care that addresses all individuals involved in the process, and can include the use of complementary and alternative medicine (CAM) therapies alongside conventional modalities such as chemotherapy, surgery, and radiation therapy. The number of integrative care programs is increasing worldwide and this book forms a foundation text for all who want to learn more about this growing field. This guide provides a thoughtful and generous perspective on integrative care, an outstanding overview of the exciting clinical opportunities these techniques can offer, and a guide to the new territories that all oncologists and CAM practitioners need to explore and understand.

DESIGN AND CONSTRUCTION OF MODERN STEEL RAILWAY BRIDGES

CRC Press This new edition encompasses current design methods used for steel railway bridges in both SI and Imperial (US Customary) units. It discusses the planning of railway bridges and the appropriate types of bridges based on planning considerations.

TRANSPORTATION ENGINEERING AND PLANNING - VOLUME I

EOLSS Publications Transportation Engineering and Planning is a component of Encyclopedia of Physical Sciences, Engineering and Technology Resources in the global Encyclopedia of Life Support Systems (EOLSS), which is an integrated compendium of twenty one Encyclopedias. The Theme on Transportation Engineering and Planning presents the readers with diverse sources of information and knowledge about transportation engineering and planning, to help ensure that informed actions are compatible with sustainable world development. It begins with a historical analysis of transportation development, since an understanding of how transportation technologies developed is a prerequisite for understanding issues involved in transportation systems, and for developing sound policy analysis. Next, the various chapters analyze transportation problems, discusses the state of public policy addressing those problems, considers the causes and effects of changes in demand for mobility as the socio-economic environment changes, and then deals with the fundamental questions related to transportation. These two volumes are aimed at the following a wide spectrum of audiences from the merely curious to those seeking in-depth knowledge: University and College students Educators, Professional practitioners, Research personnel and Policy analysts, managers, and decision makers and NGOs.

HIGH SPEED RAILWAY TRACK DYNAMICS

MODELS, ALGORITHMS AND APPLICATIONS

Springer Nature The second edition of this book systematically summarizes the latest research findings on high-speed railway track dynamics, made by the author and his research team over the past decade. It explores cutting-edge issues concerning the basic theory of high-speed railways, covering the dynamic theories, models, algorithms and engineering applications of the high-speed train and track coupling system. Presenting original concepts, systematic theories and advanced algorithms, the book places great emphasis on the precision and completeness of its content. The chapters are interrelated yet largely self-contained, allowing readers to either read through the book as a whole or focus on specific topics. It also combines theories with practice to effectively introduce readers to the latest research findings and developments in high-speed railway track dynamics. It offers a valuable resource for researchers, postgraduates and engineers in the fields of civil engineering, transportation, highway and railway engineering.

INTERNATIONAL RAILWAY JOURNAL

IRJ.

INTRODUCTION TO HOMELAND SECURITY, SECOND EDITION

CRC Press Since the attacks of 9/11, billions of dollars and countless resources have been committed and expended in the attempt to make the nation more secure. Introduction to Homeland Security: Second Edition is written by a team of homeland security and justice professionals on the cutting edge of the field. The text is a comprehensive examination of current and future challenges and explores how the United States has chosen to confront these threats with both its military and civilian agencies. Topics include: A history of homeland security in the United States The mission of the various agencies in the Department of Homeland Security and Department of Defense The foundations of emergency management: mitigation/prevention, preparedness, response, and recovery Inter-agency planning and cooperation and private partnership A survey of the most significant natural disasters and accidents, explored through case studies International and domestic terrorism and threat groups The impact of transportation and border security issues and the violence occurring in the Southwest Globalization and the role of intelligence in homeland security Future challenges in the field of homeland security Each chapter begins with objectives and ends with a summary, key terms, and discussion questions. Ample references encourage further study and research. The book is a premier text for criminal justice, homeland security, national security, and intelligence programs in universities and an ideal reference for professionals as well as policy and research institutes.

ADVANCES IN COMMUNICATIONS-BASED TRAIN CONTROL SYSTEMS

CRC Press With rapid population explosion, improving rail transit speed and capacity is strongly desirable around the world. Communication-based train control (CBTC) is an automated train control system using high capacity bidirectional train-ground communications to ensure the safe operation of rail vehicles. This book presents the latest advances in CBTC r

LIFE CYCLE ANALYSIS AND ASSESSMENT IN CIVIL ENGINEERING: TOWARDS AN INTEGRATED VISION

PROCEEDINGS OF THE SIXTH INTERNATIONAL SYMPOSIUM ON LIFE-CYCLE CIVIL ENGINEERING (IALCCE 2018), 28-31 OCTOBER 2018, GHENT, BELGIUM

CRC Press This volume contains the papers presented at IALCCE2018, the Sixth International Symposium on Life-Cycle Civil Engineering (IALCCE2018), held in Ghent, Belgium, October 28-31, 2018. It consists of a book of extended abstracts and a USB device with full papers including the Fazlur R. Khan lecture, 8 keynote lectures, and 390 technical papers from all over the world. Contributions relate to design, inspection, assessment, maintenance or optimization in the framework of life-cycle analysis of civil engineering structures and infrastructure systems. Life-cycle aspects that are developed and discussed range from structural safety and durability to sustainability, serviceability, robustness and resilience. Applications relate to buildings, bridges and viaducts, highways and runways, tunnels and underground structures, off-shore and marine structures, dams and hydraulic structures, prefabricated design, infrastructure systems, etc. During the IALCCE2018 conference a particular focus is put on the cross-fertilization between different sub-areas of expertise and the development of an overall vision for life-cycle analysis in civil engineering. The aim of the editors is to provide a valuable source of cutting edge information for anyone interested in life-cycle analysis and assessment in civil engineering, including researchers, practising engineers, consultants, contractors, decision makers and representatives from local authorities.

MODERN RAILWAY ENGINEERING

BoD - Books on Demand Since the advent of steam engines and higher throughput railways during the early nineteenth century, the rate of development has been rather steady and incremental. The development of advanced electronic control and command systems, increasing levels of automation, and electrified high-speed railways over the past few decades

have transformed the rail transportation posing it as a competitor to aviation. Modern railways are no longer the sole forte of civil and mechanical engineering and involve a broad multidisciplinary engineering disciplines from advanced computing, telecommunications, and networking to big data analytics and even AI. This volume addresses the diverse, evolving, and advanced engineering disciplines including enabling practices and processes involved in shaping modern railways.

ADVANCES AND TRENDS IN ENGINEERING SCIENCES AND TECHNOLOGIES II

PROCEEDINGS OF THE 2ND INTERNATIONAL CONFERENCE ON ENGINEERING SCIENCES AND TECHNOLOGIES, 29 JUNE - 1 JULY 2016, HIGH TATRAS MOUNTAINS, TATRANSKÉ MATLIARE, SLOVAK REPUBLIC

CRC Press These are the proceedings of the 2nd International Conference on Engineering Sciences and Technologies (ESaT 2016), held from 29th of June until the 1st of July 2016 in the scenic High Tatras Mountains, Tatranské Matliare, Slovak Republic. After the successful implementation and excellent feedback of the first international conference ESaT 2015, ESaT 2016 was organized under the auspices of the Faculty of Civil Engineering, Technical University of Košice, Slovak Republic in collaboration with the University of Miskolc, Hungary. The conference focused on a wide spectrum of topics and subject areas in civil engineering sciences. The proceedings bringing new and original advances and trends in various fields of engineering sciences and technologies that accost a wide range of academics, scientists, researchers and professionals from universities and practice. The authors of the articles originate from different countries around the world guaranteeing the importance, topicality, quality and level of presented results.

PROGRESS IN MECHANICS OF STRUCTURES AND MATERIALS

PROCEEDINGS OF THE 19TH AUSTRALASIAN CONFERENCE ON THE MECHANICS OF STRUCTURES AND MATERIALS (ACMSM19), CHRISTCHURCH, NEW ZEALAND, 29 NOVEMBER - 1 DECEMBER 2006

CRC Press This is a collection of peer-reviewed papers originally presented at the 19th Australasian Conference on the Mechanics of Structures and Materials by academics, researchers and practitioners largely from Australasia and the Asia-Pacific region. The topics under discussion include: composite structures and materials; computational mechanics; dynamic analysis of structures; earthquake engineering; fire engineering; geomechanics and foundation engineering; mechanics of materials; reinforced and prestressed concrete structures; shock and impact loading; steel structures; structural health monitoring and damage identification; structural mechanics; and timber engineering. It is a valuable reference for academics, researchers, and civil and mechanical engineers working in structural and material engineering and mechanics.

MODERN RAILWAYS DICTIONARY OF RAILWAY INDUSTRY TERMS

"The Modern Railways Dictionary of Railway Industry Terms is an essential guide to the complex world of the modern railway scene. Today's privatised railway industry has created for itself a whole new range of jargon to be added to that already in use in an industry whose history now spans two centuries." "In this book the reader is guided through the terminology that is in present use, reflecting the new railway structures that have replaced the old. The organisation of the railway itself is explained and its relationship with other bodies. This includes the Department for Transport and Network Rail as well as crucial areas such as the responsibility for safety and the funding arrangements for the Passenger Transport Executives." "While much of the book is arranged alphabetically, there are a number of topics - from the legal position to signalling, passenger services to rolling stock and so on - organised thematically."--BOOK JACKET.

BEARING CAPACITY OF ROADS, RAILWAYS AND AIRFIELDS, TWO VOLUME SET

PROCEEDINGS OF THE 8TH INTERNATIONAL CONFERENCE (BCR2A'09), JUNE 29 - JULY 2 2009, UNIVERSITY OF ILLINOIS AT URBANA - CHAMPAIGN, CHAMPAIGN, ILLINOIS, USA

CRC Press Bearing Capacity of Roads, Railways and Airfields focuses on issues pertaining to the bearing capacity of highway and airfield pavements and railroad track structures and provided a forum to promote efficient design, construction and maintenance of the transportation infrastructure. The collection of papers from the Eighth International Conference

RAIL INFRASTRUCTURE RESILIENCE

A BEST-PRACTICES HANDBOOK

Woodhead Publishing Economic growth, security and sustainability across Europe are at risk due to ageing railway infrastructure systems. At present, the majority of such systems are aging and some have even reached their initial design lives. These issues align with a major challenge in civil engineering: how to restore and improve urban infrastructure and built environments. Policy, environmental and physical barriers must be addressed and overcome. The complex and interconnected nature of the problem means that there is a need for academia, industry, communities and governments to work collaboratively. The challenges posed by extreme events from natural and man-made disasters are urgent. Rail Infrastructure Resilience: A Best-Practices Handbook presents developed improvement methods for rail infrastructure systems, toward resilience to extreme conditions. It shows how best to use new information in the engineering design, maintenance, construction and renewal of rail infrastructure resilience, through knowledge exchange and capability development. The book presents the outcome of a major European research project, known as the RISEN project. RISEN aimed to enhance knowledge creation and transfer using both international and intersectoral secondment mechanisms among European Advanced Rail Research Universities and SMEs, and Non-EU, leading rail universities, providing methodological approaches and practical tools for restoring and improving railway infrastructure systems for extreme events. Edited and written by members of this project, this book will be essential reading for researchers and practitioners hoping to find practical solutions to the challenges of rail infrastructure resilience. Offers a best-practices handbook for rail infrastructure resilience from the leaders in the field Paints a holistic picture of the rail transport system, showing that infrastructure maintenance intervention can be enhanced through advanced monitoring systems and resilience design Presents rail infrastructure resilience and advanced condition monitoring, allowing a better understanding of the critical maintenance, renewal and retrofit needs of railways Considers how academia, industry, communities and governments can work collaboratively in order to tackle aggregated problems in rail infrastructure resilience Presents the findings from the RISEN project, the leading European project on enhancing knowledge creation and transfer of expertise on rail infrastructure resilience

DESIGN OF HIGH-SPEED RAILWAY TURNOUTS

THEORY AND APPLICATIONS

Academic Press High-speed turnouts, a key technology for high-speed railways, have a great influence on the safe and stable running of high-speed trains. Design of High-Speed Railway Turnouts: Theory and Applications, comprehensively introduces the technical characteristics and requirements of high-speed turnouts, including design theories and methods of turnout layout geometry, wheel and rail relations, track stiffness, welded turnout, turnout conversion, turnout components, and manufacture and laying technologies of turnouts. Analyzing the operational problems of China's high-speed turnout in particular, this book discusses the control of structure irregularity, state irregularity, geometrical irregularity and dynamic irregularity during the design, manufacture, laying, and maintenance of turnouts. At the end of this reference book, the author provides high-speed turnouts management methods, maintenance standards, testing and monitoring technology, and maintenance technology. Design of High-Speed Railway Turnouts: Theory and Applications will enable railway technicians all over the world to develop an in-depth knowledge of the design, manufacture, laying, and maintenance technology of high-speed turnouts. The first book in the world to focus explicitly on high-speed turnouts, including design, construction, maintenance and management of high speed turnouts Expounds the theory of vehicle-turnout system coupling dynamics in detail, aligning this with several examples of computation, and examines the results of dynamic experiments which validate the theory Written by Ping Wang, who is recognized as a leading researcher and main developer of high-speed turnouts in China

BRIDGE ENGINEERING HANDBOOK, SECOND EDITION

FUNDAMENTALS

CRC Press Over 140 experts, 14 countries, and 89 chapters are represented in the second edition of The Bridge Engineering Handbook. This extensive collection highlights bridge engineering specimens from around the world, contains detailed information on bridge engineering, and thoroughly explains the concepts and practical applications surrounding the subject. Published in five books: Fundamentals, Superstructure Design, Substructure Design, Seismic Design, and Construction and Maintenance, this new edition provides numerous worked-out examples that give readers step-by-step design procedures, includes contributions by leading experts from around the world in their respective areas of bridge engineering, contains 26 completely new chapters, and updates most other chapters. It offers design concepts, specifications, and practice, as well as the various types of bridges. The text includes over 2,500 tables, charts, illustrations and photos. The book covers new, innovative, and traditional methods and practices, explores rehabilitation, retrofit, and maintenance, and examines seismic design, and building materials. The first book, Fundamentals contains 22 chapters, and covers aesthetics, planning, design specifications, structural modeling, fatigue and fracture. What's New in the Second Edition: • Covers the basic concepts, theory and special topics of bridge engineering • Includes seven new chapters: Finite Element Method, High Speed Railway Bridges, Concrete Design, Steel Design, Structural Performance Indicators for Bridges, High Performance Steel, and Design and Damage Evaluation Methods for Reinforced Concrete Beams under Impact Loading • Provides substantial updates to existing chapters, including Conceptual Design, Bridge Aesthetics: Achieving Structural Art in Bridge Design, and Application of Fiber Reinforced Polymers in Bridges This text is an ideal reference for practicing bridge engineers and consultants (design, construction, maintenance), and can also be used as a reference for students in bridge engineering courses.

MODERN RAILWAY ENGINEERING CONSULTATION

METHODS AND PRACTICES

World Scientific Report on the rapid development of railway engineering construction in China, this book introduces the basic concepts of railway engineering supported by reference to cases. This book underpins the experiences and technologies of the Chinese engineering sector in railway construction and explores systematic and optimal design in safety, reliability, applicability, economy, durability, systematic nature and interface in relation to railway engineering, and construction, to ensure the quality control at every stage of the process. The authors of this book have long been engaged in the design, consultation and research of railways and directed the engineering consultation on many high-speed railways in China, including Beijing-Shanghai High-speed Railway and Wuhan-Guangzhou Passenger Dedicated Railway. This book was compiled on the basis of the systematic analysis and summary of railway engineering consultation and in consideration of engineering consultation practices. This book is an excellent reference for relevant personnel engaged in the management, design, consultation and construction of railways and teachers and students in universities and colleges.

URBAN TRANSPORT SYSTEMS

BoD - Books on Demand This book contains a collection of latest research developments on the urban transportation systems. It describes rail transit systems, subways, bus rapid transit (BRT) systems, taxicabs, automobiles, etc. This book also studies the technical parameters and provides a comprehensive overview of the significant characteristics for urban transportation systems, including energy management systems, wireless communication systems, operations and maintenance systems, transport serviceability, environmental problems and solutions, simulation, modelling, analysis, design, safety and risk, standards, traffic congestion, ride quality, air quality, noise and vibration, financial and economic aspects, pricing strategies, etc. This professional book as a credible source can be very applicable and useful for all professors, researchers, students, experienced technical professionals, practitioners and others interested in urban transportation systems.