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**Design and Simulation of Rail Vehicles** - Maksym Spiryagin - 2014-05-13

Keep Up with Advancements in the Field of Rail Vehicle Design A thorough understanding of the issues that affect dynamic performance, as well as more inventive methods for controlling rail vehicle dynamics, is needed to meet the demands for safer rail vehicles with higher speed and loads. Design and Simulation of Rail Vehicles examines the field of rail vehicle design, maintenance, and modification, as well as
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**Design and Simulation of Heavy Haul Locomotives and Trains** - Maksym Spiryagin - 2016-10-03

With the increasing demands for safer freight trains operating with higher speed
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**Design Analysis and Laboratory Simulation of Rail Gage Widening** - Vijay Pravinchandra Shah - 1983

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**Simulating Business**

**Predictive, and Prescriptive Analytics** - Andrew Greasley - 2019-10-21

This book outlines the benefits and limitations of simulation, what is involved in setting up a simulation capability in an organization, the steps involved in developing a simulation model and how to ensure that model results are implemented. In addition, detailed example applications are provided to show where the tool is useful and what it can offer the decision maker. In Simulating Business Processes for Descriptive, Predictive, and Prescriptive Analytics, Andrew Greasley provides an in-depth discussion of Business process simulation and how it can enable business analytics. How business process simulation can provide speed, cost, dependability, quality, and flexibility metrics. Industrial case studies including improving service delivery while ensuring an efficient use of staff in public sector organizations such as the police service, testing the
capability in an organization, production facilities in manufacturing, and ensuring on-time delivery in logistics systems State-of-the-art developments in business process simulation regarding the generation of simulation analytics using process mining and modeling people’s behavior Managers and decision makers will learn how simulation provides a faster, cheaper and less risky way of observing the future performance of a real-world system. The book will also benefit personnel already involved in simulation development by providing a business perspective on managing the process of simulation, ensuring simulation results are implemented, and that performance is improved.

**Simulating Business Processes for Descriptive, Predictive, and Prescriptive Analytics** - Andrew Greasley - 2019-10-21

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**Handbook of Railway Vehicle Dynamics** - Simon Iwnicki - 2006-05-22
Understanding the dynamics of railway vehicles, and indeed of the entire vehicle-track system, is critical to ensuring safe and economical operation of modern railways. As the challenges of higher speed and higher loads with very high levels of safety require ever more innovative engineering solutions, better understanding of the technical issues a

**Track Design Handbook for Light Rail Transit** - - 2012
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,
This book on the dynamics of rail vehicles is developed from the manuscripts for a class with the same name at TU Berlin. It is directed mainly to master students with pre-knowledge in mathematics and mechanics and engineers that want to learn more. The important phenomena of the running behaviour of rail vehicles are derived and explained. Also recent research results and experience from the operation of rail vehicles are included. One focus is the description of the complex wheel-rail contact phenomena that are essential to understand the concept of running stability and curving. A reader should in the end be able to understand the background of simulation tools that are used by the railway industry and universities today.

**Rail Vehicle Dynamics**

Klaus Knothe - 2016-11-23

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**Multiphysics Modelling and Simulation for Systems Design and Monitoring** - Mohamed Haddar - 2015-01-03
This book reports on the state of the art in the field of multiphysics systems. It consists of accurately reviewed contributions to the MMSSD’2014 conference, which was held from December 17 to 19, 2004 in Hammamet, Tunisia. The different chapters, covering new theories, methods and a number of case studies, provide readers with an up-to-date picture of multiphysics modeling and simulation. They highlight the role played by high-performance computing and newly available software in promoting the study of multiphysics coupling effects, and show how these technologies can be practically implemented to bring about significant improvements in the field of design, control and monitoring of machines. In addition to providing a detailed description of the methods and their applications, the book also identifies new research issues, challenges and opportunities, thus providing researchers and practitioners with both technical information to support their daily work and a new source of inspiration for their future research.

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Railroad Vehicle Dynamics
- Ahmed A. Shabana -
2007-07-23

The methods of computational mechanics have been used extensively in modeling many physical systems. The use of multibody-system techniques, in particular, has been applied successfully in the study of various, fundamentally different applications. Railroad Vehicle Dynamics: A Computational Approach presents a computational multibody-system approach that can be used to develop complex models of railroad vehicle systems. The book examines several computational multibody-system formulations and discusses their computer implementation. The computational algorithms based on these general formulations can be used to
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July 25–28 2020. This book explains the limitations of the linearized formulations that are frequently used in the analysis of railroad vehicle systems. The chapters of the book are organized to guide readers from basic concepts and definitions through a final understanding of the utility of fully nonlinear multibody-system formulations in the analysis of railroad vehicle systems. Railroad Vehicle Dynamics: A Computational Approach is a valuable reference for researchers and practicing engineers who commonly use general-purpose, multibody-system computer programs in the analysis, design, and performance evaluation of railroad vehicle systems.

**LISS 2020 - Shifeng Liu - 2021-05-12**
This book contains the proceedings of the 10th International Conference on Logistics, Informatics and Service Sciences (LISS 2020), which is co-organized by Beijing Jiaotong University, Budapest University of Technology and Economics, in

focuses on the “AI and data-driven technical and management innovation in logistics, informatics and services” and aims to provide new research methods, theories and applications from various areas of management and engineering. In detail the included scientific papers analyse and describe communication processes in the fields of logistics, informatics, service sciences and other related areas. The variety of papers delivers added value for both scholars and practitioners. Information and communication technologies have been providing an effective network infrastructure and development platform for logistics and service operations.

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Computer Simulation - Swan Wooster Engineering Co - 1980
"Simulation has been used on a continuous basis at Swan Wooster as a valuable tool in planning and design of

The simulation concept has been applied to railway costing in order to assist in rail tariff negotiations between shippers and carriers of various types; to analyze mine to overseas consumer total transportation systems; to analyze in detail the materials handling systems of a number of complex terminals, and to help design railway terminal yards. The simulation approach is also being extended into operational simulations, linked to automatic control of operating terminals, to assist management make day-to-day operating decisions. The processes of design and simulation have been interlinked. A cycle procedure is now used to converge upon the final recommended design. A particular design is recommended, then tested by simulation, then evaluated for performance, and then revised as necessary. The cycle of testing, evaluation and revision is continued until a satisfactory design is achieved. A number of major clients now consider
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Dynamics of Coupled Systems in High-Speed Railways - Weihua Zhang - 2019-11-25

Dynamics of Coupled Systems in High-Speed Railways: Theory and Practice presents the relationship between various coupled systems that can affect train operation, including interaction between track and train, the pantograph-catenary system and train, power supply system and train, and airflow and train, with respect to the structure and characteristics of high-speed railway. The overall simulation optimization and control are achieved based on an analysis of the dynamics generated by coupled systems in high-speed framework for the dynamics presented in the book. Presents the first book available on the dynamics of coupled systems in high-speed trains Provides a systematic view of high-speed vehicle dynamics, covering the issues that are especially concerned for high speed operations, such as high-speed pantograph and catenary, aerodynamic characteristics and running stability of high-speed trains Covers the optimization of dynamic performance, the design of parameters, the simulation of high-speed train service processes, and the identification of high-speed train state and condition assessment.

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Rail Vehicle Mechatronics - Maksym Spiryagin - 2021-12-09
This unique and up-to-date work surveys the use of mechatronics in rail vehicles, notably traction, braking, communications, data sharing, and control. The results include improved safety, comfort, and fuel efficiency. Mechatronic systems are a key element in modern rail vehicle design and operation. Starting with an overview of mechatronic theory, the book goes on to cover topics including modeling of mechanical and electrical systems for rail vehicles, open and closed loop control systems, sensors, actuators and microprocessors. Modern simulation techniques and examples are included throughout, and numerical experiments and developed models for railway application are presented and explained. Case studies are used, alongside practical examples, to ensure that the reader can apply mechatronic theory to real world conditions. These
control systems, sensors, of a hybrid locomotive and simplified models of railway vehicle lateral dynamics for suspension control studies. Rail Vehicle Mechatronics provides current and in-depth content for design engineers, operations managers, systems engineers and technical consultants world-wide, working with freight, passenger, and urban transit railway systems.

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**The Use of Simulation and Optimization in the Design of Rail Transportation Systems** - R. G. Fenton - 1976

The Use of Simulation and Optimization in the Design
Simulation of the Railway Component of Intermodal Transportation - Timothy S. Meinert - 1998

In this report, the authors describe a detailed research model for the railway component of intermodal trucking operations, using discrete event system simulation. Emphasis is placed on strategic issues including railhead location analysis in multi-facility settings and product mix analysis (container versus trailer) by railhead within rail networks. The research models developed herein focus on the effects of railhead location and mix on drayage efficiency relative to shipment density profiles provided by BSNF Railway in the Chicago, Illinois area. The research advances the state of the art in intermodal simulation modeling through concurrent consideration of multiple-terminal network design and terminal activities such as hustling and train building.

Handbook of Optimization
This book promotes the use of mathematical optimization and operations research methods in rail transportation. The editors assembled thirteen contributions from leading scholars to present a unified voice, standardize terminology, and assess the state-of-the-art. There are three main clusters of articles, corresponding to the classical stages of the planning process: strategic, tactical, and operational. These three clusters are further subdivided into five parts which correspond to the main phases of the railway network planning process: network assessment, capacity planning, timetabling, resource planning, and operational planning.

Individual chapters cover:
- Simulation Capacity Assessment
- Network Design
- Train Routing
- Robust Timetabling
- Event Scheduling
- Track Allocation
- Blocking
- Shunting
- Rolling Stock Crew Scheduling
- Dispatching
- Delay Propagation
- ...
engineering, and will be very
Propagation

Dynamic Analysis of High-Speed Railway Alignment - Sirong Yi - 2017-11-28
Dynamic Analysis of High-Speed Railway Alignment: Theory and Practice elaborates on the dynamic analysis theory and method on spatial alignment parameters of high-speed railways, revealing the interaction mechanism between vehicle-track dynamic performance and track parameters of high-speed railways. It ascertains the influence rules of track structure and track geometry on vehicle-track dynamic performance, establishes the relationship models between vehicle-track dynamic performance and curve dynamic characteristic parameters, and defines the calculation relationship between lateral acceleration of car body on curves and track parameters. This book can be used as a reference book for scientific researchers, engineering technicians and management engaged in railway

helpful for railway technicians who want to learn more about route planning, design, and construction and maintenance technologies of high-speed railways. Presents the dynamic effects between the running speed of high-speed trains on curves and spatial curve technical parameters. Provides dynamic analysis, theory and methods on curve parameters of high-speed railways and improves the calculation theory on spatial alignment of high-speed railways. Covers minimum curve radius, transition curve length, minimum radius of vertical curve, steepest slope, minimum slope length and length of intermediate straight line

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This volume contains the results of the Manchester Benchmarking exercise for railway vehicle dynamics simulation packages. Five of the main computer packages currently used for this purpose were examined in the exercise and the results are presented in the form of tables and graphs.

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operational characteristics, currently used for this purpose were examined in the exercise and the results are presented in the form of tables and graphs.

**Railway Transportation Systems** - Christos N. Pyrgidis - 2016-04-05
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-urban systems through to suburban, regional and urban ones. Moreover, it thoroughly covers freight railway systems transporting conventional loads, heavy loads and dangerous goods. For each system it provides a definition, a brief overview of its evolution and examples of good practice, the main design, construction and the preconditions for its selection, and the steps required to check the feasibility of its implementation. Developed for Engineers, Designers, and Operators of Railway Systems The book also provides a general overview of issues related to safety, interface with the environment, cutting-edge technologies, and finally the techniques that govern the stability and guidance of railway vehicles on track. Contains information on the three main constituents of all railway systems: railway infrastructure, rolling stock, railway operations Provides a methodology for testing the applicability of the implementation of railway systems Offers an overview of issues related to the safety of railway systems in general Describes their interfaces with the environment, the cutting-edge technologies that are already in place as well as those that are under research, and the techniques that govern the stability and guidance of railway vehicles on track Railway
Transportation Systems: Design, Construction and Operation suits students, and also those in the industry – engineers, consultants, manufacturers, transport company executives – who need some breadth of knowledge to guide them over the course of their careers.

**Railway Transportation Systems** - Christos N. Pyrgidis - 2016-04-05
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-urban systems through to suburban, regional and urban ones. Moreover, it thoroughly covers freight railway systems transporting conventional loads, heavy loads and dangerous goods. For each system it provides a definition, a brief overview of its evolution and examples of good practice, the main design, construction and operational characteristics, the preconditions for its selection, and the steps required to check the feasibility of its implementation. Developed for Engineers, Designers, and Operators of Railway Systems

The book also provides a general overview of issues related to safety, interface with the environment, cutting-edge technologies, and finally the techniques that govern the stability and guidance of railway vehicles on track. Contains information on the three main constituents of all railway systems: railway infrastructure, rolling stock, railway operations
Provides a methodology for testing the applicability of the implementation of railway systems
Offers an overview of issues related to the safety of railway systems in general
Describes their interfaces with the environment, the cutting-edge technologies that are already in place as well as those that are under research,
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Computers in Railways XIV
Special Contributions - C.A.
Brebbia - 2014-10-31
This volume contains special
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**Discrete Choice Methods with Simulation** - Kenneth Train - 2009-07-06

The second generation of discrete choice methods, focusing on the many advances that are made possible by simulation. Researchers use these statistical methods to examine the choices that consumers, households, firms, and other agents make. Each of the major models is covered: logit, generalized extreme value, or GEV (including nested and cross-nested logits), probit, and mixed logit, plus a variety of specifications that build on these basics. Simulation-assisted estimation procedures are investigated and compared, including maximum stimulated likelihood, method of simulated moments, and method of simulated scores. Procedures for drawing from densities are described, including variance reduction techniques such as antithetics and Halton draws. Recent advances in Bayesian procedures are explored, including the use of the Metropolis-Hastings algorithm and its variant Gibbs sampling. The second
and compared, including endogeneity and expectation-maximization (EM) algorithms. No other book incorporates all these fields, which have arisen in the past 25 years. The procedures are applicable in many fields, including energy, transportation, environmental studies, health, labor, and marketing.

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**Infrastructure Design, Signalling and Security in Railway** - Xavier Perpinya - 2012-04-04
Railway transportation has become one of the main technological advances of our
Since the first railway used to carry coal from a mine in Shropshire (England, 1600), a lot of efforts have been made to improve this transportation concept. One of its milestones was the invention and development of the steam locomotive, but commercial rail travels became practical two hundred years later. From these first attempts, railway infrastructures, signalling and security have evolved and become more complex than those performed in its earlier stages. This book will provide readers a comprehensive technical guide, covering these topics and presenting a brief overview of selected railway systems in the world. The objective of the book is to serve as a valuable reference for students, educators, scientists, faculty members, researchers, and engineers.

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Computer-Aided Simulation in Railway Dynamics defines simulation models and shows
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Dynamics of Vehicles on Roads and Tracks - Maksym Spiryagin - 2021-03-19
The International Symposium on Dynamics of Vehicles on Roads and Tracks is the leading international gathering of scientists and engineers from academia and industry in the field of ground vehicle dynamics to present and exchange their latest innovations and breakthroughs. Established in Vienna in 1977, the International Association of Vehicle System Dynamics (IAVSD) has since held its biennial symposia throughout Europe and in the USA, Canada, Japan, South Africa and China. The main objectives of IAVSD are to promote the development of the science of vehicle dynamics and to encourage engineering applications of this field of science, to inform scientists and engineers on the current state-of-the-art in the field of vehicle dynamics and to broaden contacts among persons and organisations of the various countries engaged in scientific research and development in the field of vehicle dynamics and related areas. IAVSD 2017, the 25th Symposium of the International Association of Vehicle System Dynamics was hosted by the Centre for Railway Engineering at Central Queensland University, Rockhampton, Australia in August 2017. The symposium focused on the following topics related to road and rail vehicles and trains: dynamics and stability; vibration and comfort; suspension; steering; traction and braking; active safety systems; advanced driver assistance systems; autonomous road and rail vehicles; adhesion and friction; wheel-rail contact;
vehicle dynamics to present aerodynamics and crosswind; pantograph-catenary dynamics; modelling and simulation; driver-vehicle interaction; field and laboratory testing; vehicle control and mechatronics; performance and optimization; instrumentation and condition monitoring; and environmental considerations. Providing a comprehensive review of the latest innovative developments and practical applications in road and rail vehicle dynamics, the 213 papers now published in these proceedings will contribute greatly to a better understanding of related problems and will serve as a reference for researchers and engineers active in this specialised field.

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Design and Simulation of a Temperature-insensitive Rail-to-rail Comparator for Analog-to-digital Converter Application - Matthew D. Kollarits - 2010

A comparator with rail-to-rail input voltage range is presented. The rail-to-rail operation is achieved using two folded-cascode differential amplifiers operating in parallel as an input stage. The output of the appropriate amplifier is connected to the comparator output through a transmission-gate logic stage. Temperature-insensitivity is achieved by designing the input-stage amplifiers for zero-temperature-coefficient (ZTC) operation. The proposed comparator was simulated using 0.5[micrometer] silicon-on-insulator CMOS (SOI-CMOS) models. The circuit provides propagation delay less than 146.9ns. Over the 0V to 3.3V rail-to-rail common-mode input voltage range, the maximum input-offset voltage
presented. The rail-to-rail 27°C and less than 1.91mV over the temperature range of 27°C to 125°C. The comparator is shown to be suitable for a successive-approximation-register analog-to-digital converter (SAR-ADC) application by a series of validation simulations. An 8-bit SAR-ADC incorporating the comparator was tested to determine its integral non-linearity (INL) and differential non-linearity (DNL). The SAR-ADC exhibited a worst-case INL of 0.6LSB and a worst-case DNL of 0.2LSB over the temperature range 27°C to 125°C. The SAR-ADC is capable of completing one conversion every 15 [microsecond], which is adequate for sampling at a rate of 65 Kilo-samples per second (KSPS).

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Design and simulation of rail vehicles-ground vehicle engineering

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Design of High-Speed Railway Turnouts - Ping Wang - 2015-05-01
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, 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
China’s high-speed turnout 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.

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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** -
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.

Computers in Railways XV - C.A. Brebbia - 2016-09-15
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**Handbook of RAMS in Railway Systems** - Qamar Mahboob - 2018-03-14
The Handbook of RAMS in Railway Systems: Theory and Practice addresses the complexity in today's railway systems, which use computers and electromechanical components to increase efficiency while ensuring a high level of safety. RAM (Reliability, Availability, Maintainability) addresses the specifications and standards that manufacturers and operators have to meet. Modeling, implementation, and assessment of RAM and safety requires the integration of railway engineering systems; mathematical and statistical methods; standards compliance; and financial/economic factors. This Handbook brings together a group of experts to present RAM and safety in a modern, comprehensive manner.
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People and Rail Systems - John R. Wilson - 2016-12-05
Following on from 2005's Rail Human Factors: Supporting the Integrated Railway, this book brings together an even broader range of academics and practitioners from around the world to share their expertise and experience on rail human factors. The content is both comprehensive and cutting-edge, featuring more than 55 chapters addressing the following topics: passengers and public, driver performance and workload, driving and cognition, train cab and interfaces, simulation and design, routes, signage, signals and drivability, signalling and control of the railway, planning for the railway, engineering work and maintenance, level crossings, accidents and safety, human error and human reliability, SPADs: signals passed at danger, human factors integration and standards, impairments to performance, staff competencies and training. People and Rail Systems: Human Factors at the Heart of the Railway will be invaluable for all those concerned with making railways safer, more reliable, of higher quality and more
and standards to performance. It will be essential reading for policy-makers, researchers and industry around the world.

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**Track/Train Dynamics and Design**

Gerald J. Moyar - 2015-07-14

Track/Train Dynamics and Design: Advanced Techniques reviews the progress that has been made in the development and applications of advanced analytical techniques for improving the dynamic stability, safety, and reliability of current generation rail freight vehicle components and track structures. Topics covered range from structural mechanics and stress analysis methods to and material science techniques for the prediction of fracture and wear in railroad applications.
especially those dealing with transfer from other application areas, notably aerospace, is considered, along with the unique nature of some railroad problems. This book is comprised of 26 chapters and opens with an overview of Phase II of the Cooperative Track-Train Dynamics Program, including its main goals, tasks, and progress. The reader is then introduced to the state of the art of rail analytical techniques and cost/benefit issues associated with railways and railroad transportation. The following chapters explore body centerplate fatigue cracking; mathematical models for track/train dynamics; wheel and rail wear during freight car curving; and application of advanced stress analysis techniques in the design of freight car components. The application of finite element analysis to the study of railroad wheel failure phenomena is also outlined. This monograph will be a useful resource for transportation and mechanical engineers, railroads.

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**Railway Engineering Design & Operation** - G. Passerini - 2021-03-10

Originating from presentations at the 17th International Conference on Railway Engineering Design and Operation, this volume contains selected research works on the topic. It is important to continue to update the use of advanced systems by promoting general awareness throughout the management, design, manufacture and operation of railways and other emerging passenger, freight and transit systems. The included papers help to facilitate this goal and place a key focus on the applications of computer systems in advanced railway engineering. These research studies will be of interest to all those involved in the development of railways, including managers, consultants, railway engineers, designers of advanced train control systems and computer specialists.
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**Analysis and Design of Intelligent Systems Using Soft Computing Techniques** - Patricia Melin - 2007-09-20
This book comprises a selection of papers on new methods for analysis and design of hybrid intelligent systems using soft computing techniques from the IFSA 2007 World Congress, held in Cancun, Mexico, June 2007.

**COMPRAIL** - C. A. Brebbia - 2016-12-28
The papers presented in this volume 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. The book particularly emphasizes the use of computer systems in advanced railway engineering. Topics covered include: Communications and signalling; Operations quality; Energy supply and consumption; Monitoring and maintenance; Computer
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**COMPRAIL** - C. A. Brebbia - 2016-12-28

Motion Simulation and Mechanism Design with SOLIDWORKS Motion 2020 is written to help you become familiar with SOLIDWORKS Motion, an add-on module of the SOLIDWORKS software family. This book covers the basic concepts and frequently used commands required to advance readers from a novice to intermediate level in using SOLIDWORKS Motion. SOLIDWORKS Motion allows you to use solid models created in SOLIDWORKS to simulate and visualize mechanism motion and performance. Using SOLIDWORKS Motion early in the product development stage could prevent costly redesign due to design defects found in the physical testing phase. Therefore, using SOLIDWORKS Motion contributes to a more cost effective, reliable, and efficient product design process. Basic concepts discussed in this book include model generation, such as creating assembly mates for proper motion; carrying out simulation and animation; and...
SOLIDWORKS Motion 2020 is such as graphs and spreadsheet data. These concepts are introduced using simple, yet realistic examples. Verifying the results obtained from the computer simulation is extremely important. One of the unique features of this book is the incorporation of theoretical discussions for kinematic and dynamic analyses in conjunction with the simulation results obtained using SOLIDWORKS Motion. Verifying the simulation results will increase your confidence in using the software and prevent you from being fooled by erroneous simulations.

This book covers the following functionality of SOLIDWORKS Motion 2020 • Model generation • Creating assembly mates • Performing simulations • Creating animations • Visualizing simulation results

Motion Simulation and Mechanism Design with SOLIDWORKS Motion 2020
- Kuang-Hua Chang -

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