Leica Geomos Manual

An introductory text, Electricity and Electronics Fundamentals, delineates key concepts in electricity using a simplified approach that enhances learning. Mathematical calculations are kept to the very minimum and concepts are demonstrated through application examples and illustrations. The books span of topics includes vital information on direct current electronics, alternating current electricity and semiconductor devices as well as electronic circuits, digital electronics, computers and microprocessors, electronic communications, and electronic power control. Supplementary appendices provide a glossary and section on electrical safety along with an explanation of soldering techniques.
Landslide Risk Management comprises the proceedings of the International Conference on Landslide Risk Management, held in Vancouver, Canada, from May 31 to June 3, 2005. The first part of the book contains state-of-the-art and invited lectures, prepared by teams of authors selected for their experience in specific topics assigned to them by the JTC-1 Committee. The second part is a selection of papers submitted to the conference, most of which serve as case-history illustrations of projects on landslide risk management. This reference work presents the current status of landslide risk management as viewed by experts from around the world.
A guide to using the Public Record Office (PRO) in England for English or Welsh genealogical research, providing an introduction to PRO record classes of interest to North American researchers and identifying PRO records available in North American institutions. Includes advice for finding sources of emigration and immigration records, with appendices on local record offices in England and Wales and useful addresses. Annotation copyright by Book News, Inc., Portland, OR.
With the continued implementation of new equipment and new concepts and methods, such as hydroponics and soilless practices, crop growth has improved and become more efficient. Focusing on the basic principles and practical growth requirements, the Complete Guide for Growing Plants Hydroponically offers valuable information for the commercial grower, the researcher, the hobbyist, and the student interested in hydroponics. It provides details on methods of growing that are applicable to a range of environmental growing systems. The author begins with an introduction that covers the past, present, and future of hydroponics. He also describes the basic concepts behind how plants grow, followed by several chapters that present in-depth practical details for hydroponic growing systems: The essential plant nutrient elements The nutrient solution Rooting media Systems of hydroponic culture Hydroponic application factors These chapters cover the nutritional requirements of plants and how to best prepare and use nutrient solutions to satisfy plant requirements, with different growing systems and rooting media, under a variety of conditions. The book gives many nutrient solution formulas and discusses the advantages and disadvantages of various hydroponic systems. It also contains a chapter that describes a school project, which students can follow to generate nutrient element deficiency symptoms and monitor their effects on plant growth.
Understanding and Reducing Landslide Disaster Risk
Analysis and Simulation of Electrical and Computer Systems
Soft Computing Applications
Linux for Beginner's Guide to Linux Command Line, Linux System & Linux Commands
Sensing and Monitoring Technologies for Mines and Hazardous Areas
Landslide Risk Management
Tunnels and Underground Cities: Engineering and Innovation meet Archaeology, Architecture and Art. Volume 11: Urban Tunnels - Part 1 contains the contributions presented in the eponymous Technical Session during the World Tunnel Congress 2019 (Naples, Italy, 3-9 May 2019). The use of underground space is continuing to grow, due to global urbanization, public demand for efficient transportation, and energy saving, production and distribution. The growing need for space at ground level, along with its continuous value increase and the challenges of energy saving and achieving sustainable development objectives, demand greater and better use of the underground space to ensure that it supports sustainable, resilient and more liveable cities. The contributions cover a wide range of topics, from geomechanical behavior evaluation, evaluation of long-term tunnel behaviour, via monitoring excavation-related ground deformation to risk management for tunneling-induced deformations. The book is a valuable reference text for tunnelling specialists, owners, engineers, archaeologists, architects, artists and others involved in underground planning, design and building around the world, and for academics who are interested in underground constructions and geotechnics.
Sensing and Monitoring Technologies for Mines and Hazardous Areas: Monitoring and Prediction Technologies presents the fundamentals of mining related geotechnical risk and how the latest advances in sensing and data communication can be used both to prevent accidents and provide early warnings. Opencast mining operations involve huge quantities of overburden removal, dumping, and backfilling in excavated areas. Substantial increases in the rate of accumulation of waste dumps in recent years has resulted in greater height of dumps and also has given rise to the danger of dump failures as steeper open pit slopes are prone to failure. These failures lead to loss of valuable human lives and damage to mining machinery. This book presents the most recent advances in gas sensors, methane detectors, and power cut-off systems. It also introduces monitoring of the gas strata and environment, and an overview of the use of Internet of Things and cloud computing for mining sensing and surveillance purposes. Targeted at geotechnical and mining engineers, this volume covers the latest findings and technology to prevent mining accidents and mitigate the inherent risk of the activity. Presents complete details of a real-time slope stability monitoring system using wireless sensor networking and prediction technique based on multivariate statistical analysis of various parameters and analytical hierarchy process methods Discusses innovative ideas and new concepts of sensing technologies, mine transport surveillance, digital mining, and cloud computing to improve safety and productivity in mining industry Includes slope stability prediction software, downloadable through a companion website, which can be used for monitoring, analyzing, and storing different sensors and providing audio-visual, SMS, and email alerts Covers the latest findings and technology to prevent mining accidents and mitigate the inherent risk
Landslide disaster is rampant in great number worldwide as population increase and urban development. In recent years, tremendous landslides often occur so frequently that they crash regional economy and people are killed in quite a number. The Japan Landslide Society has published the Landslide News annually since 1986 and distributed them to the world, which deals with a wide range of case studies, landslide forecasting, and disaster prevention. Landslides of the World, edited as a restructured binding from the back numbers, categorizes each case by causes and analyses landslide, collapse, liquiefaction, or creep. This volume comprehensively covers major landslide cases all over the world, which stands as a basic reference for the public administrators.
Weak rocks encountered in open pit mines cover a wide variety of materials, with properties ranging between soil and rock. As such, they can provide a significant challenge for the slope designer. For these materials, the mass strength can be the primary control in the design of the pit slopes, although structures can also play an important role. Because of the typically weak nature of the materials, groundwater and surface water can also have a controlling influence on stability. Guidelines for Open Pit Slope Design in Weak Rocks is a companion to Guidelines for Open Pit Slope Design, which was published in 2009 and dealt primarily with strong rocks. Both books were commissioned under the Large Open Pit (LOP) project, which is sponsored by major mining companies. These books provide summaries of the current state of practice for the design, implementation and assessment of slopes in open pits, with a view to meeting the requirements of safety, as well as the recovery of anticipated ore reserves. This book, which follows the general cycle of the slope design process for open pits, contains 12 chapters. These chapters were compiled and written by industry experts and contain a large number of case histories. The initial chapters address field data collection, the critical aspects of determining the strength of weak rocks, the role of groundwater in weak rock slope stability and slope design considerations, which can differ somewhat from those applied to strong rock. The subsequent chapters address the principal weak rock types that are encountered in open

pit mines, including cemented colluvial sediments, weak sedimentary mudstone rocks, soft coals and chalk, weak limestone, saprolite, soft iron ores and other leached rocks, and hydrothermally altered rocks. A final chapter deals with design implementation aspects, including mine planning, monitoring, surface water control and closure of weak rock slopes. As with the other books in this series, Guidelines for Open Pit Slope Design in Weak Rocks provides guidance to practitioners involved in the design and implementation of open pit slopes, particularly geotechnical engineers, mining engineers, geologists and other personnel working at operating mines.

Shooting Incident Reconstruction
Investigation and Mitigation
Reference Frames for Applications in Geosciences
Revised and Selected Papers from the International Conference on Informatics in Control Automation and Robotics 2009
Advanced Technologies, Systems, and Applications VI
LINUX Beginner's Crash Course

Forensic scientists, law enforcement, and crime scene investigators are often tasked with reconstruction of events based on crime scene evidence, and the subsequent analysis of that evidence. The use and misuse of firearms to perpetrate crimes from theft to murder necessitates numerous invitations to reconstruct shooting incidents. The discharge of firearms and the behavior of projectiles create many forms of physical evidence that, through proper testing and interpretation by a skilled forensic scientist, can establish what did and what did not occur. This book is generated from the authors' numerous years of conducting courses and seminars on the subject of shooting incident reconstruction. It seeks to thoroughly address matters from simple to complex in providing the reader an explanation of the factors surrounding ballistics, trajectory, and shooting scenes. The ultimate objectives of this unique book are to assist investigators, crime scene analysts, pathologists, ballistics experts, and lawyers to understand the terminology, science, and factors involved in reconstructing shooting incident events to solve forensic cases. The book will cover the full range of related topics including the range from which a firearm was discharged, the sequence of shots in a multiple discharge shooting incident, the position of a firearm at the moment of discharge, the position of a victim at the moment of impact, the probable flight path of a projectile, the manner in which a firearm was discharged and much more. Written by the most well-respected shooting scene and ballistics experts in the world Contains over 200 full-color diagrams and photographs that support and illustrate key concepts Case studies illustrate real-world application of technical concepts

The first book on the subject written by a practitioner forpractitioners. Geotechnical Instrumentation for Monitoring FieldPerformance Geotechnical Instrumentation for Monitoring FieldPerformance goes far beyond a mere summary of the technicalliterature and manufacturers ’ brochures: it guides readersthrough the entire geotechnical instrumentation process, showingthem when to monitor safety and performance, and how to do it well.This comprehensive guide: * Describes the critical steps of planning monitoring programsusing geotechnical instrumentation, including what benefits can beachieved and how construction specifications should bewritten * Describes and evaluates monitoring methods and recommendsinstruments for monitoring groundwater pressure, deformations,total stress in soil, stress change in rock, temperature, and loadand strain in structural members * Offers detailed practical guidelines on instrument calibrations,installation and maintenance, and on the collection, processing,and interpretation of instrumentation data * Describes the role of geotechnical instrumentation during theconstruction and operation phases of civil engineering projects,including braced excavations, embankments on soft ground,embankment dams, excavated and natural slopes, undergroundexcavations, driving piles, and drilled shafts * Provides guidelines throughout the book on the best practices

The book has evolved from the author's continuing teaching of the subject and from two editions of a text of the same title. The first edition was published in 1978 by the School of Surveying, Universi ty of New South Wales, Sydney, Australia. Like its predecessors, this totally revised third edition is designed to make the subject matter more readily available to students proceeding to degrees in Survey ing and related fields. At the same time, it is a comprehensive refer ence book for all surveyors as well as for other professionals and scientists who use electronic distance measurement as a measuring tool. Great emphasis is placed on the understanding of measure ment principles and on proper reduction and calibration pro cedures. It comprises an extensive collection of essential formulae, useful tables and numerous literature references. After a review of the history of EDM instruments in Chapter 1, some fundamental laws of physics and units relevant to EDM are revised in Chapter 2. Chapter 3 discusses the principles and applica tions of the pulse method, the phase difference method, the Doppler technique and includes an expanded section on interferometers. The basic working principles of electro-optical and microwave distance meters are presented in Chapter 4, with special emphasis on modu lation/demodulation techniques and phase measurement systems. Important properties of infrared emitting and lasing diodes are discussed.

This book presents current progress in landslide science and consists of four parts: progress in landslide science, landslide dynamics, landslide monitoring, and landslide risk assessment. It provides useful information to those working on landslide risk-mitigation planning. It can be also used as an introductory textbook for college students who wish to learn fundamental scientific achievements in the field of landslide disaster reduction.

Foundation Instrumentation

Monitoring and Prediction Technologies
Control Surveys in Civil Engineering
Model Code
Introduction to Knowledge Systems

This book traces the history of liquid crystal display (LCD)development from simple laboratory samples to the flat, thin LCDs thathave become an important part of everyday life, appearing intelevision screens, computers, cellular phones, as well as numerousother consumer and industrial products.

A comprehensive, one-stop synthesis of landslide science, for researchers and graduate students in geomorphology, engineering geology and geophysics.

This book is a part of ICL new book series “ICL Contribution to Landslide Disaster Risk Reduction” founded in 2019. Peer-reviewed papers submitted to the Fifth World Landslide Forum were published in six volumes of this book series. This book contains the followings: • Four Forum lectures and one award paper • Sendai Landslide Partnerships, Kyoto Landslide Commitment, and International Programme on Landslides. • Landslide-induced tsunamis • Landslides at UNESCO designates sites and contribution from WMO, FAO, and IRDR • Education and Capacity Development for Risk Management and Risk Governance Prof. Kyoji Sassa is the Founding President and the Secretary-General of International Consortium on Landslides (ICL). He has been the Editor-in-Chief of International Journal Landslides since its foundation in 2004. Prof. Matjaž Mikoš is the Vice President of International Consortium on Landslides and Vice President of Slovenian Academy of Engineering. He is a Professor and Dean of Faculty of Civil and Geodetic Engineering, University of Ljubljana, Slovenia. Dr. Shinji Sassa is Head of Soil Dynamics Group and Research Director of International Research Center for Coastal Disasters, Port and Airport Research Institute, National Institute of Maritime, Port and Aviation Technology, Japan. Prof. Peter Bobrowsky is the President of International Consortium on Landslides. He is a Senior Scientist of Geological Survey of Canada, Ottawa, Canada. Prof. Kaoru Takara is the Executive Director of International Consortium on Landslides. He is a Professor and Dean of Graduate School of Advanced Integrated Studies (GSAIS) in Human Survivability (Shishu-Kan), Kyoto University. Dr. Khang Dang is the Secretary General of the Fifth World Landslide Forum. He also serves as the Research Promotion Officer of ICL and a Lecturer at the University of Science, Vietnam National University, Hanoi.

A Complutense International Seminar on "Earth Sciences and Mathematics" was organised and held in Madrid at the Facultad de Ciencias Matemáticas of the Universidad Complutense de Madrid in September 2006. Scientists from both fields, Mathematics and Earth Sciences, took part in this International Seminar, addressing scientific problems related to our planet from clearly complementary approaches, seeking to gain and learn from this dual approach and proposing a closer collaboration in the near future. This volume is the second one of a Topical Issue on "Earth Sciences and Mathematics" and contains papers addressing different topics as analysis of InSAR time series, fuzzy classification for remote sensing, modelling gravitational instabilities, geodynamical evolution of the Alboran Sea, statistical warning systems for volcanic hazards, analysis of solutions for the hydrological cycle, study of the ice flow, magma intrusion in elastic layered media, river channel formation, Hartley transform filters for continuous GPS, and deformation modeling.

Volume 1 Sendai Landslide Partnerships and Kyoto Landslide Commitment

Guidelines for Open Pit Slope Design in Weak Rocks

Liquid Gold

Electronic Distance Measurement

Engineering Mechanics: Statics, SI Edition

Electrical Installation Guide

Become a Linux Superstar! What if you could learn about Linux in a simple, easy to follow format? Can you imagine the doors that will be open to you once you gain that knowledge? Tracing its roots back to the mid 90's, Linux came to life and has become existent in almost every gadget you see around your home. Linux has unique technical aspects, which makes it distinct from other operating systems out there. To take advantage of its specialties, one must know how to operate it, and this book is made just for that purpose! In fact, all Quick Start Guide books are aimed to get you the knowledge you need in an easy to learn and easy to apply method. Our philosophy is we work hard so you don't have to! Linux Beginner's Crash Course is your user manual to understanding how it works, and how you can perfectly manipulate the command line with ease and confidence. So...Why Be Interested in Linux? -Cost: It's free and readily available -Freedom: Take full control of your desktop and kernel -Flexibility: Strong structural components that allows you to customize your computer however you want it. What Will You Learn in this Book? 1. Linux Overview 2. Components of Linux 3. The Linux Kernel 4. Linux Processes 5. Linux File Systems 6. Linux Processes 7. Linux Processes This tutorial is going to help you master the use of LINUX and make you even more computer literate. Everything takes time and learning, and with this book, you are one step away to becoming a pro! Read this book now to quickly learn Linux and open yourself up to a whole new world of possibilities! ?Pick up your copy today. See you on the inside so we can get to work!

Although most mining companies utilise systems for slope monitoring, experience indicates that mining operations continue to be surprised by the occurrence of adverse geotechnical events. A comprehensive and robust performance monitoring system is an essential component of slope management in an open pit mining operation. The development of such a system requires considerable expertise to ensure the monitoring system is effective and reliable. Written by instrumentation experts and geotechnical practitioners, Guidelines for Slope Performance Monitoring is an initiative of the Large Open Pit (LOP) Project and the fifth book in the Guidelines for Open Pit Slope Design series. Its 10 chapters present the process of establishing and operating a slope monitoring system; the fundamentals of pit slope monitoring instrumentation and methods; monitoring system operation; data acquisition, management and analysis; and utilising and communicating monitoring results. The implications of increased automation of mining operations are also discussed, including the future requirements of performance monitoring. Guidelines for Slope Performance Monitoring summarises leading mine industry practice in monitoring system design, implementation, system management, data management and reporting, and provides guidance for engineers, geologists, technicians and others responsible for geotechnical risk management.

Concrete structures can be designed for durability by applying the principles and procedures of reliability theory combined with traditional structural design. This book is the first systematic attempt to introduce into structural design a general theory of structural reliability and existing calculation models for common degradation processes. It covers both the theoretical background and practical design for service life and includes worked examples which highlight the application of the design procedure and methods.

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available online and also via the iPad and Android apps. Upon purchase, you'll gain instant access to this eBook. Time limit The eBooks products do not have an expiry date. You will continue to access your digital ebook products whilst you have your Bookshelf installed. Engineering Mechanics: Statics excels in providing a clear and thorough presentation of the theory and application of engineering mechanics. Engineering Mechanics empowers students to succeed by drawing upon Prof. Hibbeler's everyday classroom experience and his knowledge of how students learn. This text is shaped by the comments and suggestions of hundreds of reviewers in the teaching profession, as well as many of the author's students. The 14th Edition includes new Preliminary Problems, which are intended to help students develop conceptual understanding and build problem-solving skills. The text features a large variety of problems from a broad range of engineering disciplines, stressing practical, realistic situations encountered in professional practice, and having varying levels of difficulty.

Volume 11: Urban Tunnels - Part 1

Abstracts of the Papers

A Testing Procedure for Use in Geodetic Networks

Earth Sciences and Mathematics, Volume II

The TICCIH Guide to Industrial Heritage Conservation

Inertial Navigation Systems with Geodetic Applications

The proceedings of the Third International Conference on Intelligent Systems Design and Applications (ISDA 2003) held in Tulsa, USA, August 10-13. Current research in all areas of computational intelligence is presented including design of artificial neural networks, fuzzy systems, evolutionary algorithms, hybrid computing systems, intelligent agents, and their applications in science, technology, business and commerce. Main themes addressed by the conference are the architectures of intelligent systems, image, speech and signal processing, internet modeling, data mining, business and management applications, control and automation, software agents and knowledge management.

Reference systems and frames are of primary importance for many Earth science applications, satellite navigation as well as for practical applications in geo-information. A precisely defined reference frame is needed for the quantification of, e.g. Earth rotation and its gravity field, global and regional sea level variation, tectonic motion and deformation, post-glacial rebound, geocenter motion, large scale deformation due to Earthquakes, local subsidence and other ruptures and crustal dislocations. All of these important scientific applications fundamentally depend on a truly global reference system that only space geodesy can realize. This volume details the proceedigns of the IAG Symposium REFAG2010 (Marne la Vallée, France, October 4-8, 2010) The primary scope of REFAG2010 was to address today’s achievements on theoretical concepts of reference systems and their practical implementations by individual space geodetic techniques and their combinations, underlying limiting factors, systematic errors and novel approaches for future improvements.

This book covers all aspects of inertial navigation systems (INS), including the sensor technology and the estimation of instrument errors, as well as their integration with the Global Positioning System (GPS) for geodetic applications. Complete mathematical derivations are given. Both stabilized and strapdown mechanizations are treated in detail. Derived algorithms to process sensor data and a comprehensive explanation of the error dynamics provide not only an analytical understanding but also a practical implementation of the concepts. A self-contained description of GPS, with emphasis on kinematic applications, is one of the highlights in this book. The text is of interest to geodesists, including surveyors, mappers, and photogrammetrists; to engineers in aviation, navigation, guidance, transportation, and robotics; and to scientists involved in aerogeophysics and remote sensing.

This book will serve as a valuable reference to widely applicable and critically important geoenvironmental topics for pipeline engineers worldwide. The topics covered are: route selection, open cut and elevated driver crossings, horizontal directional drilling, buoyancy control and geohazard management. Authored by a team of recognized specialists in their respective fields and with practical examples from experiences around the world, this book will provide generalists with working knowledge in the topics addressed to better define design, construction and integrity management issues and to identify practical solutions.

The Story of Liquid Crystal Displays and the Creation of an Industry

Landslides of the World

Progress in Landslide Science

Complete Guide for Growing Plants Hydroponically
Landslides
Industrial Heritage Re-tooled
fib Bulletin 34 addresses Service Life Design (SLD) for plain concrete, reinforced concrete and pre-stressed concrete structures, with a special focus on design provisions for managing the adverse effects of degradation. Its objective is to identify agreed durability related models and to prepare the framework for standardization of performance based design approaches. Four different options for SLD are given: - a full probabilistic approach, - a semi probabilistic approach (partial factor design), - deemed to satisfy rules, - avoidance of deterioration. The service life design approaches described in this document may be applied for the design of new structures, for updating the service life design if the structure exists and real material properties and/or the interaction of environment and structure can be measured (real concrete covers, carbonation depths), and for calculating residual service life. The bulletin is divided into five chapters: 1. General 2. Basis of design 3. Verification of Service Life Design 4. Execution and its quality management 5. Maintenance and condition control It also includes four informative annexes, which give background information and examples of procedures and deterioration models for the application in SLD. The format of Bulletin 34 follows the CEB-FIP tradition for Model Codes: the main provisions are given on the right-hand side of the page, and on the left-hand side, the comments. Note: An Italian translation of Bulletin 34 is also available; contact us for further details.
With very few exceptions, geodetic measurements use electro magnetic radiation in order to measure directions, distances, time delays, and Doppler frequency shifts, to name the main ter restrial and space observables. Depending on the wavelength of the radiation and the purpose of the measurements, the follow ing parameters of the electromagnetic wave are measured: ampli tude, phase, angle-of-arrival, polarisation and frequency. Ac curate corrections have to be applied to the measurements in order to take into account the effects of the intervening medium between transmitter and receiver. The known solutions use at mospheric models, special observation programs, remote sensing techniques and instrumental methods. It has been shown that the effects of the earth's atmospheric envelope present a fundamental limitation to the accuracy and precision of geodetic measurements. This applies equally to ter restrial and space applications. Instrumental accuracies are al ready below the atmospherically induced limitations, and thus the accuracy demands on the geodetic refraction solutions are entering a new magnitude zone. This monograph is primarily devoted to the properties of the at mospheric effects on various geodetic measurements and to their evaluation. Ten review papers cover the most pressing aspects of the atmospheric effects on geodetic measurement~. Ttiese state of-the art papers were written by eminent specialists in their respective research fields.
This book presents the innovative and interdisciplinary application of advanced technologies. It includes the scientific outcomes and results of the conference 12th Day of Bosnian-Herzegovinian American Academy of Art and Sciences held in Mostar, Bosnia, and Herzegovina, June 24-27, 2021. The latest developments in various fields of engineering have been presented through various papers in civil engineering, mechanical engineering, computing, electrical and electronics engineering, and others. A new session, Sustainable Urban Development: Designing Smart, Inclusive and Resilient Cities, was organized, enabling experts in this field to exchange their knowledge and expertise.
Geotechnical failures, specially the catastrophic ones, are a stimulus to improve current understanding of phenomena and procedures and tools for analysis and prediction. This unconventional approach to geomechanics is the essence of this book. In general, soil mechanics and geotechnical textbooks describe first the concepts and theoretical developments and then apply them to interpret or solve a particular applications. This book follows a different course. The case (a failure) is first described and then an explanation is sought. This requires a set of steps which can be summarized as follows: Identify the nature of the problem, develop a dedicated and specific formulation of the case, based on established basic concepts. In general, no single existing theory or procedure is available to solve the case at hand, provide a solution within an acceptable degree of complexity, extract the fundamental aspects of the problem and highlight its relevance. The cases selected have been grouped into three main topics: Landslides, Embankments and Dams and Dynamics of Failures. Cases selected (Vaiont, Aznalcóllar, Brattas-St. Moritz) are unique and illustrate a number of relevant and to some extent controversial issues which are of wide interest, without claiming

exhaustive treatment of the subject. The book teaches how to build the necessary models to understand the failures. Well established soil mechanics concepts are the necessary background. But the cases analyzed require in general a step ahead which is specific for the case analyzed. Balance and equilibrium equations are often required as a starting point. They are formulated at different scales, which are selected having in mind the abstract representation of each case. Various chapters illustrate also the coupled nature (flow-deformation-temperature) of geotechnical problems and the need to properly address these complexities in some cases. In fact, temperature effects, a subject often neglected in conventional analyses, are necessary to explain some catastrophic landslides (Vaiont). In some of the chapters, specific calculation tools, included in well known and widely available programs (Excel, Maple...) have been used. Details of the ad hoc programs developed have also been included in Appendices to help the readers to follow the details of the calculation. Finite element methods have not been used. In the landslides analyzed (Vaiont and Brattas-St. Moritz) currently available commercial programs are of limited utility. In the remaining cases the analysis performed provides a sufficient insight and interpretation of field behaviour. Chapters include also a short description of the changes in the original design and the mitigation measures which could have prevented the failure. Also, a summary section of lessons learned is provided in all chapters. Finally, selected topics and more advanced reading are suggested. This book is associated with a Master/Doctorate course being offered at the Department of Geotechnical Engineering and Geosciences of UPC, Barcelona. Potential readers therefore include Graduate and Master students, faculty and professionals in the fields of Civil and Geotechnical Engineering.

Effects of Electromagnetic Wave Propagation Through the Atmosphere

Types, Mechanisms and Modeling

Proceedings of the International Symposium on Innovative and Interdisciplinary Applications of Advanced Technologies (IAT) 2021

Geodetic Network Analysis and Optimal Design

Pipeline Geo-environmental Design and Geohazard Management

Informatics in Control Automation and Robotics

Focusing on fundamental scientific and engineering issues, this book communicates the principles of building and using knowledge systems from the conceptual standpoint as well as the practical. Previous treatments of knowledge systems have focused on applications within a particular field, or on symbol-level representations, such as the use of frame and rule representations. Introduction to Knowledge Systems presents fundamentals of symbol-level representations including representations for time, space, uncertainty, and vagueness. It also compares the knowledge-level organizations for three common knowledge-intensive tasks: classification, configuration, and diagnosis. The art of building knowledge systems incorporates computer science theory, programming practice, and psychology. The scope of this book is appropriately broad, ranging from the design of hierarchical search algorithms to techniques for acquiring the task-specific knowledge needed for successful applications. Each chapter proceeds from concepts to applications, and closes with a brief tour of current research topics and open issues. Readers will come away with a solid foundation that will enable them to create real-world knowledge systems using whatever tools and programming languages are most current and appropriate.

This volume comprises the authoritative work from the International Committee for the Conservation of the Industrial Heritage – the international group dedicated to industrial archaeology and heritage – detailing the latest approaches to the conservation of the global industrial heritage. With contributions from over thirty specialists in archaeology and industrial heritage, Industrial Heritage Re-tooled establishes the first set of comprehensive best practices for the management, conservation, and interpretation of historical industrial sites. This book:-defines the meaning and scope of industrial heritage within an international context;-addresses the identification and conservation of the material remains of industry;-covers subjects as diverse as documentation and recording of industrial heritage, industrial tourism, and the teaching of industrial heritage in museums, schools, and universities.

The papers collected in this book are concerned with the application of the so-called "soft-computing" techniques to the aim of defining flexible systems. The topics covered witness the actual research trend towards an integration of distinct formal

techniques for defining flexible systems. The contributions in this volume mainly concern the definition of systems in several application fields, such as image processing, control, asset allocation, medicine, time series forecasting, qualitative modeling, support to design, reliability analysis, diagnosis, filtering, data analysis, land mines detection and so forth. The papers presented in this volume are organized into three main thematic sections: Fuzzy Systems, Neural Networks and Genetic and Evolutionary Algorithms, although, as outlined before, some works employ more than one technique from these fields.

In the recent past a marked increase of the damages caused by natural hazard processes has been documented, for example by the Munich Re-Insurance. On a regional scale, a similar development can be observed in mountain regions such as the Alps, where it is particularly a rise in flood events that has caused the maximum amount of economic damage. Three major aspects may help to explain this phenomenon: The changing frequency-magnitude relationship of the natural hazard processes, the multiplication of the damage potential due to the socio-economic change, and the non-adequate way of coping with the changing risk by the official authorities. As a consequence, this book tries to address key questions related to these developments and to give answers to these problems. Question 1: How can the strategies for coping with the rise in extreme flooding be improved? Question 2: How can the damage potential and other socio-economic aspects be quantified? Question 3: How can new computer based technologies contribute to minimizing the risks related to alpine natural hazards? An initial chapter gives an overview of the global change aspects of natural hazards and their related risks. While three chapters outline answers to question 1, four chapters discuss question 2. Five chapters give examples of new technologies.

Tunnels and Underground Cities: Engineering and Innovation Meet Archaeology, Architecture and Art

Durability Design of Concrete Structures

Guidelines for Slope Performance Monitoring

Geotechnical Instrumentation for Monitoring Field Performance

Geomechanics of Failures. Advanced Topics

According to IEC International Standards

This book presents the selected results of the XI Scientific Conference Selected Issues of Electrical Engineering and Electronics (WZEE) which was held in Rzeszów and Czarna, Poland on September 27-30, 2013. The main aim of the Conference was to provide academia and industry to discuss and present the latest technological advantages and research results and to integrate the new interdisciplinary scientific circle in the field of electrical engineering, electronics and mechatronics. The Conference was organized by the Rzeszów Division of Polish Association of Theoretical and Applied Electrical Engineering (PTETiS) in cooperation with Rzeszów University of Technology, the Faculty of Electrical and Computer Engineering and Rzeszów University, the Faculty of Mathematics and Natural Sciences.

The present book includes a set of selected papers from the fourth “International Conference on Informatics in Control Automation and Robotics” (ICINCO 2009), held in Milan, Italy, from 2 to 5 July 2009. The conference was organized in three simultaneous tracks: “Intelligent Control Systems and Optimization”, “Robotics and Automation” and “Systems Modeling, Signal Processing and Control”. The book is based on the same structure. ICINCO received 365 paper submissions, not including those of workshops, from 55 countries, in all continents. After a double blind paper review performed by the Program Committee only 34 submissions were accepted as full papers and thus selected for oral presentation, leading to a full paper acceptance ratio of 9%. Additional papers were accepted as short papers and posters. A further refinement was made after the conference, based also on the assessment of presentation quality, so that this book includes the extended and revised versions of the very best papers of ICINCO 2009. Commitment to high quality standards is a major concern of ICINCO that will be maintained in the next editions of this conference, including not only the stringent paper acceptance ratios but also the quality of the program committee, keynote lectures, workshops and logistics.

Electricity and Electronics Fundamentals, Second Edition

An Introduction

Concepts and Applications

Intelligent Systems Design and Applications

Geodetic Refraction

Model Code for Service Life Design