Soil Stress-Strain Behavior: Measurement, Modeling and Analysis

Geotechnical Abstracts

Intended as an introductory text in soil mechanics, the eighth edition of Das, PRINCIPLES OF GEOTECHNICAL ENGINEERING offers an overview of soil properties and mechanics together with coverage of field practices and basic engineering procedure. Background information needed to support study in later design-oriented courses or in professional practice is provided through a wealth of surprising comprehensive discussions, detailed explanations, and more figures and worked out problems than any other text in the market. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Evaluation of Soil and Rock Properties

An insight into the use of the finite method in geotechnical engineering. The first volume covers the theory and the second volume covers the applications of the subject. The work examines popular constitutive models, numerical techniques and case studies.

Introduction to Geotechnical Engineering

Analysis and design of geotechnical structures combines, in a single endeavor, a textbook to assist students in understanding the behavior of the main geotechnical works and a guide for practising geotechnical engineers, designers, and consultants. The subjects are treated in fine with limit state design, which underpins the Eurocodes and most North American design codes. Instructors and students will value innovative approaches to numerous issues refined by the experience of the author in teaching generations of enthusiastic students. Professionals will gain from its comprehensive treatment of the topics covered in each chapter, supplemented by a plethora of informative material used by consultants and designers. For the benefit of both academics and professionals, practical geotechnical design problems are proposed at the end of most chapters. A final annex includes detailed resolutions of the exercises and problems.

Multiphysical Testing of Soils and Shales

Written by a leader on the subject, Introduction to Geotechnical Engineering is first introductory geotechnical textbook to cover both saturated and unsaturated soil mechanics. Destined to become the next leading text in the field, this book presents a new approach to teaching the subject, based on fundamentals of unsaturated soils, and extending the description of applications of soil mechanics to a wide variety of topics. This groundbreaking work features a number of topics typically left out of undergraduate geotechnical courses.

Earthquake Geotechnical Engineering

Tim Davis assembles in-depth field manual for soil technicians and geotechnical engineers for use during the investigation, grading, and construction phases of geotechnical projects.

Geotechnical Analysis of Seismic Vulnerability of Monuments and Historical Sites

Cone Penetration Testing in Geotechnical Pratice

The Pressuremeter

The material in this work is focused on recent developments in research into the stress-strain behavior of geomaterials, with an emphasis on laboratory measurements, soil constitutive modeling and behavior of soil structures (such as reinforced soils, piles and slopes). The latest advancements in the field, such as the rate effect and dynamic behavior of both clay and sand, behavior of modified soils and soil mixes, and soil liquefaction are addressed.

Canadian Geotechnical Journal

Geotechnical Site Investigations for Underground Projects

This book deals with in-situ tests that are performed in geotechnics to identify and characterize the soil. These measurements are then used to size the Civil Engineering works This book is intended for engineers, students and geotechnical researchers. It provides useful information for use and optimal use of in-situ tests to achieve a better book adaptation of civil engineering on the ground.

Geotechnical Engineering

This book presents a one-stop reference to the empirical correlations used extensively in geotechnical engineering. Empirical correlations play a key role in geotechnical engineering designs and analysis. Laboratory and in situ testing of soils can add significant cost to a civil engineering project. By using appropriate empirical correlations, it is possible to derive many design parameters, thus limiting our reliance on these soil tests. The authors have decades of experience in geotechnical engineering, as professional engineers or researchers. The objective of this book is to present a critical evaluation of the empirical correlations reported in the literature, along with typical values of soil parameters in the light of their experience and knowledge. This book will be a one-stop-shop for the practising professionals, geotechnical researchers and academics looking for specific correlations for estimating certain geotechnical parameters. The empirical correlations in the forms of equations and charts and typical values are collated from extensive literature review, and from the authors' database.

Principles of Geotechnical Engineering

Grounded!

Handbook of Tropical Residual Soils Engineering

Foundations on expansive soils

Significant advancements in the experimental analysis of soils and shales have been achieved during the last few decades. Outstanding progress in the field has led to the theoretical development of geomechanical theories and important engineering applications. This book provides the reader with an overview of recent advances in a variety of advanced experimental techniques and results for the analysis of materials under multi-physics testing conditions. Modern trends in experimental geomechanics for soils and shales are discussed, including testing materials in variably saturated conditions, non-isothermal experiments, micro-scale investigations and image analysis techniques. Six theme papers from leading researchers in experimental geomechanics are also included. This book is intended for postgraduate students, researchers and practitioners in fields where multiphysical testing of soils and shales plays a fundamental role, such as unsaturated soil and rock mechanics, petroleum engineering, nuclear waste storage engineering, unconventional energy resources and CO2 geological sequestration.

Handbook of Geotechnical Testing: Basic Theory, Procedures and Comparison of Standards

One-volume library of instant geotechnical and foundation data Now for the first time ever, geotechnical, foundation, and civil engineers, geologists, architects, planners, and construction managers can quickly find information they must refer to every working day, in one compact source. Edited by Robert W. Day, the time-and-effort-saving Geotechnical Engineer's Portable Handbook gives you field exploration guidelines and lab procedures. You'll find soil and rock classification, basic phase relationships, and all the tables and charts you need for stress distribution, pavement, and pipeline design. You also get abundant information on all types of geotechnical analyses, including settlement, bearing capacity, expansive soil, slope stability - plus coverage of retaining walls and building foundations. Other construction-related topics covered include grading, instrumentation, excavation, underpinning, groundwater control and more.

Journal of Geotechnical Engineering

This document presents state-of-the-practice information on the evaluation of soil and rock properties for geotechnical design applications. This document addresses the entire range of materials potentially encountered in highway engineering practice, from soft clay to intact rock and variations of materials that fall between these two extremes. Information is presented on parameters of interest in these materials and the design implications of these parameters. This information is intended to be used as a starting point for the design engineer in the development of a rationale for accepting or rejecting data and for resolving inconsistencies between data provided by different laboratories and field tests. This document also includes information on: (1) the use of Geographical Information Systems (GIS) and Personal Data Assistance devices for the collection and interpretation of subsurface information; (2) quantitative measures for evaluating disturbance of laboratory soil samples; and (3) the use of measurements in situ and laboratory tests to compare data obtained from different laboratories and field tests. This document also includes information on: (1) the use of Geographical Information Systems (GIS) and Personal Data Assistance devices for the collection and interpretation of subsurface information; (2) quantitative measures for evaluating disturbance of laboratory soil samples; and (3) the use of measurements in situ and laboratory tests to compare data obtained from different laboratories and field tests. This document also includes information on: (1) the use of Geographical Information Systems (GIS) and Personal Data Assistance devices for the collection and interpretation of subsurface information; (2) quantitative measures for evaluating disturbance of laboratory soil samples; and (3) the use of measurements in situ and laboratory tests to compare data obtained from different laboratories and field tests.

In Situ Tests in Geotechnical Engineering

Determination of the physical, chemical and mechanical properties of ground materials is the key to successfully deliver such projects as slope stabilization, excavation and lateral support, foundation etc. A book containing both theory of geomaterials and fundamental concepts of geomaterials is therefore a must. This book is intended to meet this need and aims at the clear explanation, in adequate depth, of the fundamental principles, requirements and procedures of soil and rock tests. It is intended that the book will serve as a useful source of information for professionals in the field of geotechnical and geological engineering. It can work as a one-stop knowledge warehouse to build a basic cognition of material tests on which the readers are working. It helps college students, engineers, geologists and other professionals to understand soil and rock properties and to interpret test results. It is also useful for training new technicians and providing a refresher for veterans. Engineers contemplating the ICE, R403 and other certification exams will find this book an essential test preparation aid. It is assumed that the reader has no prior knowledge of the subject but has a good understanding of basic mechanics.

Piezcone and Cone Penetration Test (CPTu and CPT) Applications in Foundation Engineering

*Elton presents 35 serious but entertaining experiments for budding scientists and engineers. These experiments teach the fundamentals of soil mechanics and illustrate the dynamics of how soils behave
and how they can be manipulated."--

**Correlations of Soil and Rock Properties in Geotechnical Engineering**

**Soil Testing Manual**

**Modeling in Geotechnical Engineering**

Written in a concise, easy-to-understand manner, INTRODUCTION TO GEOTECHNICAL ENGINEERING, 2e, presents intensive research and observation in the field and lab that have improved the science of foundation design. Now providing both U.S. and SI units, this non-calculus-based text is designed for courses in civil engineering technology programs where soil mechanics and foundation engineering are combined into one course. It is also a useful reference tool for civil engineering practitioners. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

**NUL Journal of Research**

This book provides guidance on the specification, performance, use and interpretation of the Electric Cone Penetration Test (CPU), and in particular the Cone Penetration Test with pore pressure measurement (CPTU) commonly referred to as the "piezocene test".

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