Stresses and Displacements for Shallow Foundations - D. Milovic 2013-10-22 This monograph presents the results of the mathematical analysis of stresses and displacements for shallow foundations subjected to various types of loads. In these analyses not only the classical models but more complex models of soils have been used, such as two-layer half-space, homogeneous compressible layer of finite thickness, two-layer compressible layer of finite thickness, and isoviscous layer of finite thickness. Contacts are considered. Vertical stresses and shear forces have been determined for foundations of any rigidity. Numerous values of the dimensionless coefficients are tabulated, which can be of use in the solution of practical engineering problems.

Stresses and Displacements for Shallow Foundations - D. Milovic 1992

On the Determination of Stresses and Displacements for Unsymmetrical Deformation of Shallow Shells - Ömer Aydan 2019-07-04 Rock dynamics has become one of the most important topics in the field of rock mechanics and rock engineering, and involves a wide variety of topics, from earthquake engineering to geotechnical problems as well as the performance of vertically-loaded footings using a rational framework based on the small-strain modulus Gmax, parallelism between the stress-strain-strength behavior of the single soil element response and the load-bearing capacity, and the dynamic loading conditions, as well to both drained and undrained loading. Yet, Gmax is too stiff for direct use in computer programs that require it to be computationally efficient, and therefore, it is necessary to develop a more accurate model for rock materials that can be used in practical applications. The present study focuses on developing a new model for rock materials that can be used in practical applications, and this model is based on the small-strain modulus Gmax and the performance of vertically-loaded footings using a rational framework based on the small-strain modulus Gmax, parallelism between the stress-strain-strength behavior of the single soil element response and the load-bearing capacity, and the dynamic loading conditions, as well to both drained and undrained loading. Yet, Gmax is too stiff for direct use in computer programs that require it to be computationally efficient, and therefore, it is necessary to develop a more accurate model for rock materials that can be used in practical applications. 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evidence for a connection between the Earth’s rotation and geotectonics. Satellite and plate-motion data in particular suggest that the rotation affects geotectonics. The author recasts the (classical) models of body tides and argues that the energy from the tides directs the otherwise random process of convection. Among other benefits, this model could prove an important step in deciphering the flow of the Earth’s mantle. Introducing a more complete model of the tidal Earth than those orthodox until now, Bostrom points to the likelihood that a non-reversing term accounts for the remarkable contrast between the Earth and its sister planet Venus—including the existence of mobile plates and the preservation of liquid water.

Rock Stress and Earthquakes—Fumi Xie 2010-07-29 The evaluation of in-situ rock stress is not only important in the exploration and engineering involving rock masses for mining, hydropower, tunneling, oil and gas production, and stone quarrying, but also in the geodynamics and earthquake prediction. The methods of determining these stresses for shallow crust in the engineering practice, including

Asian and Pacific Coasts 2003 Yoshimi Chiba 2004 This book presents the experience of coastal and port engineering development, as well as coastal environmental problems, in Asian and Pacific countries. It also provides information and promotes technological progress and activities, international technical transfer and cooperation, and opportunities for engineers and researchers to maintain and improve scientific and technical competence. The subject areas are not limited to the classical topics of coastal engineering but are extended to related fields, including environments, marine ecology, coastal oceanography, fishery, etc.

Support of Underground Excavations in Hard Rock—E. Hoye 2000-01-01 The safe and economical construction of tunnels, mines, and other subterranean works depends on the correct choice of support systems to ensure that the excavations are stable. These support systems should be matched to the characteristics of the rock mass and the excavation techniques adopted. Establishing the support requirements, designing support systems and installing these correctly are essential elements in safe underground construction. This is a comprehensive and practical work which also gives access to user-friendly computer programmes which the enable the investigation and design of support techniques. Details on how to obtain this software are also included in the book.

Rock Dynamics and Applications 3—Carl G. Li 2018-06-18 Rock Dynamics—Experiments, Theories and Applications is a collection of scientific and technical papers presented at the Third International Conference on Rock Dynamics and Applications (Boulder, Colorado, USA, June 26-27, 2018). The papers in the book reflect the recent developments in experiment and theory as well as engineering applications of rock dynamics. Rock dynamics studies the response of rock and rock masses under dynamic loading and during the state transition from static loading to kinetic movement. It also includes the study of engineering countermeasures to dynamic instability of rock and rock masses. The topics in the book include—Dynamic theories—Numerical simulation—Propagation of stress waves—Dynamic tests of rock—Stability of underground openings under dynamic loading—Rockburst—Seismic monitoring—Dynamic rock support—Blasting—Earthquake-related rock structure damage, etc. Applications, such as rockburst, dynamic rock support, seismic monitoring, blasting and earthquake-related rock structure damage, are paid special attention in Rock Dynamics—Experiments, Theories and Applications. The papers, from specialists both from mining and tunnelling branches, discuss commonly interested dynamic issues. Their experience and knowledge in the application of rock dynamics are extremely valuable for all academicians, engineers and professionals who work with rock dynamics.

Tunnels and Underground Cities. Engineering and Innovation Meet Archaeology, Architecture and Art—Daniele Peila 2019-04-17 Tunnels and Underground Cities: Engineering and Innovation meet Archaeology, Architecture and Art contains the contributions presented at 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 accounts for the remarkable contrast between the Earth and its sister planet Venus—including the existence of mobile plates and the preservation of liquid water.

U.S. Government Research & Development Reports—1971

Abstracts of North American Geology—1971

International Aerospace Abstracts—1994

IUTAM Symposium on New Applications of Nonlinear and Chaotic Dynamics in Mechanics—Francis C. Moon 1998-10-31 This book presents the latest research results in the area of applied nonlinear dynamics and chaos theory. Papers by three academic generations address new applications of nonlinear dynamics to mechanics, including fluid-structure interaction, machining and mechanics of solids, and many other applications.

Engineering Geology and Geotechnics—F. C. Bull 2013-10-22 Engineering Geology and Geotechnics discusses engineering survey methods. The book is comprised of 12 chapters that cover several concerns in engineering, such as building foundations, slopes, and construction materials. Chapter 1 covers site investigation, while Chapter 2 tackles geophysical exploration. Chapter 3 deals with slope and open excavation, while Chapter 4 discusses subsurface excavation. Foundation for buildings, reservoir, and dams and dam sites are also covered in the book. A chapter then tackles hydropower and underground water supply. The text also encompasses river and beach engineering. The last two chapters cover engineering seismology and construction materials. This book will be of great use to researchers, practitioners, and students of engineering.

Introduction to the Theory of Shells—Clive J. Dym 2016-06-06 Introduction to the Theory of Shells provide a brief introduction to the foundations of shell theory, and to some of the important problems that can be tackled within the framework of shell theory. The book discusses topics on the Lamé problem and derivation of beam theory; the basic postulates, or assumptions of shell theory; membrane shells and the bending of circular cylinders; and axisymmetric vibrations of circular cylinders. Mathematicians and students of mathematics will find the book invaluable.

Proceedings of the Society for Experimental Stress Analysis—Society for Experimental Stress Analysis 1976 Vol. 1, no. 1 contains Proceedings of the 17th (or the last) Eastern Photoelasticity Conference.

Ground Anchors and Anchored Structures—Piotr P. Xanthakos 1991-09-03 Treating anchorages as a direct application of the laws of statics and the theories governing the transfer of load, this book focuses on designs that are safe and reasonably priced. It is divided into two parts. Following a general introduction in the first chapter, Part One goes on to explore anchor components, installation, and construction details. Presents special anchor systems such as electrostatic, compression-type, multilink, and regrowable anchors. Analyzes the transfer of load and its relation to failure modes and anchor load capacity; deals with design considerations; covers mechanisms and types of corrosion; and details anchor stressing, testing programs, and evaluation standards.

Part Two considers uses and applications and design aspects of anchored structures; presents design examples of practical value and reasonable simplicity; and incorporates examples and case histories.