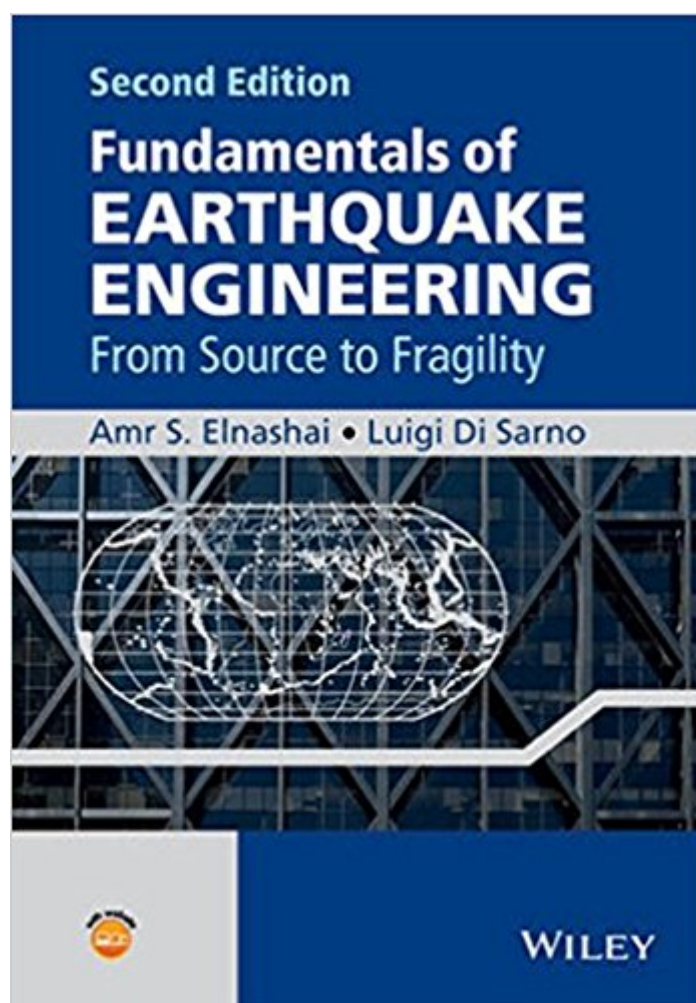


The book was found

Fundamentals Of Earthquake Engineering: From Source To Fragility



Synopsis

Fundamentals of Earthquake Engineering: From Source to Fragility, Second Edition combines aspects of engineering seismology, structural and geotechnical earthquake engineering to assemble the vital components required for a deep understanding of response of structures to earthquake ground motion, from the seismic source to the evaluation of actions and deformation required for design, and culminating with probabilistic fragility analysis that applies to individual as well as groups of buildings. Basic concepts for accounting for the effects of soil-structure interaction effects in seismic design and assessment are also provided in this second edition. The nature of earthquake risk assessment is inherently multi-disciplinary. Whereas this book addresses only structural safety assessment and design, the problem is cast in its appropriate context by relating structural damage states to societal consequences and expectations, through the fundamental response quantities of stiffness, strength and ductility. This new edition includes material on the nature of earthquake sources and mechanisms, various methods for the characterization of earthquake input motion, effects of soil-structure interaction, damage observed in reconnaissance missions, modeling of structures for the purposes of response simulation, definition of performance limit states, fragility relationships derivation, features and effects of underlying soil, structural and architectural systems for optimal seismic response, and action and deformation quantities suitable for design. Key features: Unified and novel approach: from source to fragility Clear conceptual framework for structural response analysis, earthquake input characterization, modelling of soil-structure interaction and derivation of fragility functions Theory and relevant practical applications are merged within each chapter Contains a new chapter on the derivation of fragility Accompanied by a website containing illustrative slides, problems with solutions and worked-through examples Fundamentals of Earthquake Engineering: From Source to Fragility, Second Edition is designed to support graduate teaching and learning, introduce practising structural and geotechnical engineers to earthquake analysis and design problems, as well as being a reference book for further studies.

Book Information

Hardcover: 494 pages

Publisher: Wiley; 2 edition (September 28, 2015)

Language: English

ISBN-10: 1118678923

ISBN-13: 978-1118678923

Product Dimensions: 6.9 x 1.2 x 9.9 inches

Shipping Weight: 1.6 pounds (View shipping rates and policies)

Average Customer Review: Be the first to review this item

Best Sellers Rank: #2,432,392 in Books (See Top 100 in Books) #103 in [Books > Engineering & Transportation > Engineering > Civil & Environmental > Seismic Design](#) #356 in [Books > Science & Math > Earth Sciences > Seismology](#) #1408 in [Books > Science & Math > Physics > Mechanics](#)

Customer Reviews

Fundamentals of Earthquake Engineering: From Source to Fragility, Second Edition combines aspects of engineering seismology, structural and geotechnical earthquake engineering to assemble the vital components required for a deep understanding of the response of structures to earthquake ground motion, from the seismic source to the evaluation of actions and deformation required for design, and culminating with probabilistic fragility analysis that applies to individual as well as groups of buildings. Basic concepts accounting for the effects of soil-structure interactions in seismic design and assessment are also provided in this second edition. The nature of earthquake risk assessment is inherently multidisciplinary. While this book addresses only structural safety assessment and design, the problem is cast in its appropriate context by relating structural damage states to societal consequences and expectations, through the fundamental response quantities of stiffness, strength and ductility. This new edition includes material on the nature of earthquake sources and mechanisms, various methods for the characterisation of earthquake input motion, effects of soil-structure interaction, damage observed in reconnaissance missions, modelling of structures for the purposes of response simulation, definition of performance limit states, fragility relationships derivation, features and effects of underlying soil, structural and architectural systems for optimal seismic response, and action and deformation quantities suitable for design. Key features:

- Unified and novel approach: from source to fragility
- Clear conceptual framework for structural response analysis, earthquake input characterisation, modelling of soil-structure interaction and derivation of fragility functions
- Theory and relevant practical applications are merged within each chapter
- Contains a new chapter on the derivation of fragility
- Accompanied by a website containing illustrative slides, problems with solutions and worked-through examples

Fundamentals of Earthquake Engineering: From Source to Fragility, Second Edition is designed to support graduate teaching and learning, introduce practising structural and geotechnical engineers to earthquake

analysis and design problems, as well as being a reference book for further studies.

Amr S. Elnashai Pennsylvania State University, USA Luigi Di Sarno University of Sannio, Italy

[Download to continue reading...](#)

Fundamentals of Earthquake Engineering: From Source to Fragility Perspectives on Earthquake
Geotechnical Engineering: In Honour of Prof. Kenji Ishihara (Geotechnical, Geological and
Earthquake Engineering) Fire Following Earthquake (American Society of Civil Engineers: Technical
Council on Lifeline Earthquake Engineering Monograph, No. 26) Earthquake Engineering: From
Engineering Seismology to Performance-Based Engineering write source 2000 Skills Book (Great
Source Write Source) Earthquake: Perspectives on Earthquake Disasters (Disaster Dossiers) The
Black Swan: Second Edition: The Impact of the Highly Improbable: With a new section: "On
Robustness and Fragility" (Incerto) Twitter and Tear Gas: The Power and Fragility of Networked
Protest Fundamentals of Earthquake Engineering Geotechnical Earthquake Engineering, Second
Edition (Mechanical Engineering) Structural Dynamics of Earthquake Engineering: Theory and
Application Using Mathematica and Matlab (Woodhead Publishing Series in Civil and Structural
Engineering) Engineering Fundamentals: An Introduction to Engineering (Activate Learning with
these NEW titles from Engineering!) Strunk's Source Readings in Music History: The Nineteenth
Century (Revised Edition) (Vol. 6) (Source Readings Vol. 6) Open (Source) for Business: A Practical
Guide to Open Source Software Licensing -- Second Edition Great Source Write Source: Hardcover
Student Edition 2000 Great Source Write Source: Teacher's Edition Grade 6 1999 Yangzi River
Map: From Source to Sea, Featuring the Three Gorges, Shanghai, Wuhan, Chongqing, & the
Source in Tibet Seismic Design and Assessment of Bridges: Inelastic Methods of Analysis and
Case Studies (Geotechnical, Geological and Earthquake Engineering) Introduction to Earthquake
Engineering Geotechnical Earthquake Engineering

[Contact Us](#)

[DMCA](#)

[Privacy](#)

[FAQ & Help](#)