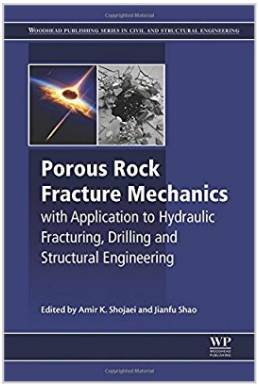

Porous Rock Fracture Mechanics: with Application to Hydraulic Fracturing, Drilling and Structural Engineering (Woodhead Publishing Series in Civil and Structural Engineering)

From Woodhead Publishing

Porous Rock Fracture Mechanics: with Application to Hydraulic Fracturing, Drilling and Structural Engineering (Woodhead Publishing Series in Civil and Structural Engineering) From Woodhead Publishing

Porous Rock Failure Mechanics: Hydraulic Fracturing, Drilling and Structural Engineering focuses on the fracture mechanics of porous rocks and modern simulation techniques for progressive quasi-static and dynamic fractures. The topics covered in this volume include a wide range of academic and industrial applications, including petroleum, mining, and civil engineering.

Chapters focus on advanced topics in the field of rock's fracture mechanics and address theoretical concepts, experimental characterization, numerical simulation techniques, and their applications as appropriate. Each chapter reflects the current state-of-the-art in terms of the modern use of fracture simulation in industrial and academic sectors. Some of the major contributions in this volume include, but are not limited to: anisotropic elasto-plastic deformation mechanisms in fluid saturated porous rocks, dynamics of fluids transport in fractured rocks and simulation techniques, fracture mechanics and simulation techniques in porous rocks, fluid-structure interaction in hydraulic driven fractures, advanced numerical techniques for simulation of progressive fracture, including multiscale modeling, and micromechanical approaches for porous rocks, and quasi-static versus dynamic fractures in porous rocks.

This book will serve as an important resource for petroleum, geomechanics, drilling and structural engineers, R&D managers in industry and academia.

- Includes a strong editorial team and quality experts as chapter authors
- Presents topics identified for individual chapters are current, relevant, and interesting
- Focuses on advanced topics, such as fluid coupled fractures, rock's continuum damage mechanics, and multiscale modeling

- Provides a ‘one-stop’ advanced-level reference for a graduate course focusing on rock’s mechanics

Porous Rock Fracture Mechanics: with Application to Hydraulic Fracturing, Drilling and Structural Engineering (Woodhead Publishing Series in Civil and Structural Engineering)

From Woodhead Publishing

Porous Rock Fracture Mechanics: with Application to Hydraulic Fracturing, Drilling and Structural Engineering (Woodhead Publishing Series in Civil and Structural Engineering) From Woodhead Publishing

Porous Rock Failure Mechanics: Hydraulic Fracturing, Drilling and Structural Engineering focuses on the fracture mechanics of porous rocks and modern simulation techniques for progressive quasi-static and dynamic fractures. The topics covered in this volume include a wide range of academic and industrial applications, including petroleum, mining, and civil engineering.

Chapters focus on advanced topics in the field of rock's fracture mechanics and address theoretical concepts, experimental characterization, numerical simulation techniques, and their applications as appropriate. Each chapter reflects the current state-of-the-art in terms of the modern use of fracture simulation in industrial and academic sectors. Some of the major contributions in this volume include, but are not limited to: anisotropic elasto-plastic deformation mechanisms in fluid saturated porous rocks, dynamics of fluids transport in fractured rocks and simulation techniques, fracture mechanics and simulation techniques in porous rocks, fluid-structure interaction in hydraulic driven fractures, advanced numerical techniques for simulation of progressive fracture, including multiscale modeling, and micromechanical approaches for porous rocks, and quasi-static versus dynamic fractures in porous rocks.

This book will serve as an important resource for petroleum, geomechanics, drilling and structural engineers, R&D managers in industry and academia.

- Includes a strong editorial team and quality experts as chapter authors
- Presents topics identified for individual chapters are current, relevant, and interesting
- Focuses on advanced topics, such as fluid coupled fractures, rock's continuum damage mechanics, and multiscale modeling
- Provides a 'one-stop' advanced-level reference for a graduate course focusing on rock's mechanics

Porous Rock Fracture Mechanics: with Application to Hydraulic Fracturing, Drilling and Structural Engineering (Woodhead Publishing Series in Civil and Structural Engineering) From Woodhead Publishing Bibliography

- Published on: 2017-05-22
- Original language: English
- Dimensions: 9.10" h x .90" w x 5.90" l,
- Binding: Hardcover
- 336 pages

Editorial Review

About the Author
Dr. Amir Shojaei is a Technical Consultant and Scientist at DuPont Performance Materials (Wilmington, DE, USA) and has held research scientist and lecturer positions at Halliburton Energy Services (Houston, TX, USA), Louisiana State University (Baton Rouge, LA, USA), University College London (London, UK), and University of Sheffield (Sheffield, UK). He received his doctorate in Mechanical Engineering in May of 2012 from Louisiana State University. He has been working on several research projected, funded by NASA (USA), National Science Foundation (USA), US Air Force (USA), and EPSRC (UK), related to advanced simulation techniques for progressive fracture simulation in rocks, polymer composites, and metals. During his career as a “computational mechanics scientist” at Multiscale Design System LLC (now MultiScale Designer - Altair), he carried out intensive research work for Lockheed Martin and General Motor Industries to study the efficiency of the multiscale predictive techniques for static and fatigue life prediction of advanced composites. His research foci immediately relevant to this volume includes extensive work with rock failure mechanics, rock’s continuum damage mechanics, fracture mechanics, poroelasticity and poroplasticity and - over the last five years - has carried out many researches in field of perforation, hydraulic fracturing and drilling mechanics. He is the author of over 20 peer-reviewed technical articles, 3 book chapters published by Springer and Woodhead publishing, and 3 US patents. He is also serving as a reviewer in many topnotch international journals.

Prof. Jianfu Shao, obtained his M.Sc. on solid mechanics from the University of Science and Technology of Lille (USTL) in 1984 and his doctoral degree on geomechanics in 1987. He was assistant professor at USTL from 1989 to1994 and got a full time professor position in 1994. He was the head of the research team (THM-C coupling) for 15 years (1995-2010), which composed of 15 permanent researchers and 22 doctoral students, and was director of the LML (UMR8107 CNRS) from 01/2010 to 12/2013, composed of 5 research teams, with 75 permanent scientific staff and more than 80 doctoral students. His research interests include experimental investigation, theoretical and numerical modeling of geomaterials and civil engineering structures taking into account thermal, hydromechanical and chemical coupling. In particular, he is working on multi-scale approaches for the formulation of constitutive models based on non-linear homogenization methods, the development of robust numerical simulations and original experimental techniques for deformation and failure processes in heterogeneous geomaterials and structures. He is the PI of two French National Research Agency (ANR) projects and developing strong scientific collaborations with leading industry partners. He is currently a member of editorial boards for four major international journals in geomechanics, civil and environmental engineering. He has supervised more than 30 doctoral students. He is also conducting a number of international collaborations and actively involved in the organization of several international symposiums. He has co-edited two books and co-authored 17 chapters in books. He is the author and co-author of more than 150 papers in SCI journals and received more than 3000 citations with an H index of 30 (Google Scholar sources).

Users Review

From reader reviews:

Gary Lewis:

The book untitled Porous Rock Fracture Mechanics: with Application to Hydraulic Fracturing, Drilling and Structural Engineering (Woodhead Publishing Series in Civil and Structural Engineering) is the reserve that recommended to you to see. You can see the quality of the guide content that will be shown to you. The language that publisher use to explained their ideas are easily to understand. The copy writer was did a lot of exploration when write the book, therefore the information that they share to you is absolutely accurate. You also might get the e-book of Porous Rock Fracture Mechanics: with Application to Hydraulic Fracturing, Drilling and Structural Engineering (Woodhead Publishing Series in Civil and Structural Engineering) from the publisher to make you much more enjoy free time.

Anna Maday:

Is it you who having spare time and then spend it whole day through watching television programs or just resting on the bed? Do you need something totally new? This Porous Rock Fracture Mechanics: with Application to Hydraulic Fracturing, Drilling and Structural Engineering (Woodhead Publishing Series in Civil and Structural Engineering) can be the answer, oh how comes? A fresh book you know. You are thus out of date, spending your spare time by reading in this fresh era is common not a geek activity. So what these books have than the others?

Thomas Schulz:

You can find this Porous Rock Fracture Mechanics: with Application to Hydraulic Fracturing, Drilling and Structural Engineering (Woodhead Publishing Series in Civil and Structural Engineering) by go to the bookstore or Mall. Just simply viewing or reviewing it could possibly to be your solve difficulty if you get difficulties for ones knowledge. Kinds of this publication are various. Not only by simply written or printed but additionally can you enjoy this book simply by e-book. In the modern era such as now, you just looking of your mobile phone and searching what your problem. Right now, choose your own ways to get more information about your book. It is most important to arrange you to ultimately make your knowledge are still up-date. Let's try to choose suitable ways for you.

Stewart Moore:

Do you like reading a guide? Confuse to looking for your best book? Or your book had been rare? Why so many issue for the book? But virtually any people feel that they enjoy to get reading. Some people likes studying, not only science book and also novel and Porous Rock Fracture Mechanics: with Application to Hydraulic Fracturing, Drilling and Structural Engineering (Woodhead Publishing Series in Civil and Structural Engineering) or others sources were given understanding for you. After you know how the fantastic a book, you feel need to read more and more. Science e-book was created for teacher or perhaps students especially. Those books are helping them to put their knowledge. In other case, beside science guide, any other book likes Porous Rock Fracture Mechanics: with Application to Hydraulic Fracturing, Drilling and Structural Engineering (Woodhead Publishing Series in Civil and Structural Engineering) to make your spare time more colorful. Many types of book like this one.

Read Porous Rock Fracture Mechanics: with Application to Hydraulic Fracturing, Drilling and Structural Engineering (Woodhead Publishing Series in Civil and Structural Engineering) From Woodhead Publishing for online ebook

Porous Rock Fracture Mechanics: with Application to Hydraulic Fracturing, Drilling and Structural Engineering (Woodhead Publishing Series in Civil and Structural Engineering) From Woodhead Publishing Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Porous Rock Fracture Mechanics: with Application to Hydraulic Fracturing, Drilling and Structural Engineering (Woodhead Publishing Series in Civil and Structural Engineering) From Woodhead Publishing books to read online.

Online Porous Rock Fracture Mechanics: with Application to Hydraulic Fracturing, Drilling and Structural Engineering (Woodhead Publishing Series in Civil and Structural Engineering) From Woodhead Publishing ebook PDF download

Porous Rock Fracture Mechanics: with Application to Hydraulic Fracturing, Drilling and Structural Engineering (Woodhead Publishing Series in Civil and Structural Engineering) From Woodhead Publishing Doc

Porous Rock Fracture Mechanics: with Application to Hydraulic Fracturing, Drilling and Structural Engineering (Woodhead Publishing Series in Civil and Structural Engineering) From Woodhead Publishing Mobipocket

Porous Rock Fracture Mechanics: with Application to Hydraulic Fracturing, Drilling and Structural Engineering (Woodhead Publishing Series in Civil and Structural Engineering) From Woodhead Publishing EPub

41Q2MKGWNHP: Porous Rock Fracture Mechanics: with Application to Hydraulic Fracturing, Drilling and Structural Engineering (Woodhead Publishing Series in Civil and Structural Engineering) From Woodhead Publishing