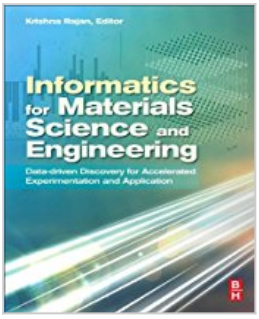

Informatics for Materials Science and Engineering: Data-driven Discovery for Accelerated Experimentation and Application

From Butterworth-Heinemann

Informatics for Materials Science and Engineering: Data-driven Discovery for Accelerated Experimentation and Application From Butterworth-Heinemann

Materials informatics: a ‘hot topic’ area in materials science, aims to combine traditionally bio-led informatics with computational methodologies, supporting more efficient research by identifying strategies for time- and cost-effective analysis.

The discovery and maturation of new materials has been outpaced by the thicket of data created by new combinatorial and high throughput analytical techniques. The elaboration of this "quantitative avalanche"—and the resulting complex, multi-factor analyses required to understand it—means that interest, investment, and research are revisiting informatics approaches as a solution.

This work, from Krishna Rajan, the leading expert of the informatics approach to materials, seeks to break down the barriers between data management, quality standards, data mining, exchange, and storage and analysis, as a means of accelerating scientific research in materials science.

This solutions-based reference synthesizes foundational physical, statistical, and mathematical content with emerging experimental and real-world applications, for interdisciplinary researchers and those new to the field.

- Identifies and analyzes interdisciplinary strategies (including combinatorial and high throughput approaches) that accelerate materials development cycle times and reduces associated costs
- Mathematical and computational analysis aids formulation of new structure-property correlations among large, heterogeneous, and distributed data sets
- Practical examples, computational tools, and software analysis benefits rapid identification of critical data and analysis of theoretical needs for future problems

Informatics for Materials Science and Engineering: Data-driven Discovery for Accelerated Experimentation and Application

From Butterworth-Heinemann

Informatics for Materials Science and Engineering: Data-driven Discovery for Accelerated Experimentation and Application From Butterworth-Heinemann

Materials informatics: a ‘hot topic’ area in materials science, aims to combine traditionally bio-led informatics with computational methodologies, supporting more efficient research by identifying strategies for time- and cost-effective analysis.

The discovery and maturation of new materials has been outpaced by the thicket of data created by new combinatorial and high throughput analytical techniques. The elaboration of this "quantitative avalanche"—and the resulting complex, multi-factor analyses required to understand it—means that interest, investment, and research are revisiting informatics approaches as a solution.

This work, from Krishna Rajan, the leading expert of the informatics approach to materials, seeks to break down the barriers between data management, quality standards, data mining, exchange, and storage and analysis, as a means of accelerating scientific research in materials science.

This solutions-based reference synthesizes foundational physical, statistical, and mathematical content with emerging experimental and real-world applications, for interdisciplinary researchers and those new to the field.

- Identifies and analyzes interdisciplinary strategies (including combinatorial and high throughput approaches) that accelerate materials development cycle times and reduces associated costs
- Mathematical and computational analysis aids formulation of new structure-property correlations among large, heterogeneous, and distributed data sets
- Practical examples, computational tools, and software analysis benefits rapid identification of critical data and analysis of theoretical needs for future problems

Informatics for Materials Science and Engineering: Data-driven Discovery for Accelerated Experimentation and Application From Butterworth-Heinemann Bibliography

- Sales Rank: #2566539 in eBooks
- Published on: 2013-07-10
- Released on: 2013-07-10
- Format: Kindle eBook

Editorial Review

Review

*"The first half of the volume sets out foundational aspects of data science, and the second half surveys applications in materials science using a case-study approach. The topics include novel approaches to statistical learning in materials science, data dimensionality reduction in materials science,…. high-performance computing for accelerated zeolitic materials modeling, and using multivariate analysis to answer questions concerning the conservation of artworks and cultural heritage materials."--**Reference & Research Book News,** **December 2013***

Users Review

From reader reviews:

Paulette Cantu:

Have you spare time to get a day? What do you do when you have much more or little spare time? Yeah, you can choose the suitable activity for spend your time. Any person spent their very own spare time to take a wander, shopping, or went to typically the Mall. How about open or maybe read a book eligible Informatics for Materials Science and Engineering: Data-driven Discovery for Accelerated Experimentation and Application? Maybe it is to be best activity for you. You recognize beside you can spend your time along with your favorite's book, you can wiser than before. Do you agree with it has the opinion or you have other opinion?

Mary Barker:

A lot of people always spent their very own free time to vacation as well as go to the outside with them friends and family or their friend. Did you know? Many a lot of people spent many people free time just watching TV, or even playing video games all day long. If you want to try to find a new activity that is look different you can read a book. It is really fun to suit your needs. If you enjoy the book that you read you can spent 24 hours a day to reading a e-book. The book Informatics for Materials Science and Engineering: Data-driven Discovery for Accelerated Experimentation and Application it is rather good to read. There are a lot of people who recommended this book. These folks were enjoying reading this book. When you did not have enough space to deliver this book you can buy the e-book. You can m0ore effortlessly to read this book from the smart phone. The price is not too expensive but this book offers high quality.

Craig Nazario:

Do you like reading a e-book? Confuse to looking for your favorite book? Or your book had been rare? Why so many query for the book? But virtually any people feel that they enjoy for reading. Some people likes reading, not only science book but also novel and Informatics for Materials Science and Engineering: Data-

driven Discovery for Accelerated Experimentation and Application or perhaps others sources were given expertise for you. After you know how the truly amazing a book, you feel wish to read more and more. Science reserve was created for teacher or maybe students especially. Those publications are helping them to include their knowledge. In additional case, beside science guide, any other book likes Informatics for Materials Science and Engineering: Data-driven Discovery for Accelerated Experimentation and Application to make your spare time more colorful. Many types of book like here.

Isaac Lewis:

Reading a e-book make you to get more knowledge from the jawhorse. You can take knowledge and information from the book. Book is composed or printed or outlined from each source that will filled update of news. With this modern era like currently, many ways to get information are available for you actually. From media social similar to newspaper, magazines, science e-book, encyclopedia, reference book, fresh and comic. You can add your knowledge by that book. Are you hip to spend your spare time to open your book? Or just in search of the Informatics for Materials Science and Engineering: Data-driven Discovery for Accelerated Experimentation and Application when you needed it?

Read Informatics for Materials Science and Engineering: Data-driven Discovery for Accelerated Experimentation and Application From Butterworth-Heinemann for online ebook

Informatics for Materials Science and Engineering: Data-driven Discovery for Accelerated Experimentation and Application From Butterworth-Heinemann 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 Informatics for Materials Science and Engineering: Data-driven Discovery for Accelerated Experimentation and Application From Butterworth-Heinemann books to read online.

Online Informatics for Materials Science and Engineering: Data-driven Discovery for Accelerated Experimentation and Application From Butterworth-Heinemann ebook PDF download

Informatics for Materials Science and Engineering: Data-driven Discovery for Accelerated Experimentation and Application From Butterworth-Heinemann Doc

Informatics for Materials Science and Engineering: Data-driven Discovery for Accelerated Experimentation and Application From Butterworth-Heinemann Mobipocket

Informatics for Materials Science and Engineering: Data-driven Discovery for Accelerated Experimentation and Application From Butterworth-Heinemann EPub