



Principles of Solar Engineering, Third Edition

By D. Yogi Goswami

Download now

Read Online →

Principles of Solar Engineering, Third Edition By D. Yogi Goswami

An Engineering-Based Survey of Modern Solar Energy Concepts and Practical Applications

Reflecting major developments in solar energy since the publication of the last edition, **Principles of Solar Engineering, Third Edition** follows the changes in energy policies that have led to the rapid growth of solar energy systems. This latest edition focuses on the fundamentals and the design of systems for various applications including building, heating and cooling, industrial process heat, electric power plants (including PV and CSP), and environmental systems.

What's New in the Third Edition:

The third edition introduces new topics that include organic and dye sensitized solar cells in the photovoltaics chapter, advanced thermodynamic power cycles such as supercritical CO₂ cycle and information on design software packages. The chapters on solar radiation and solar thermal collectors have been completely changed. Because of its increased importance, solar thermal power is covered in much more depth than in the previous edition.

The book contains increased coverage of high temperature thermal storage for CSP in the chapter for energy storage and transport. It changes many end-of-chapter problems, provides examples and problems for both northern and southern hemispheres and countries around the world, includes a solutions manual, and revises the retained material. A significant change in the new edition is the addition of economic analysis in the first chapter, which includes a number of solved examples, and allows the students to analyze the applications in the later chapters from an economic stand point.

Designed to be both a textbook and a reference, this work:

- Introduces the global energy situation and addresses changes taking place in the distribution of available energy resources
- Covers concentrating and nonconcentrating solar thermal collectors in much more depth than before
- Highlights the latest developments in collector materials as well as new correlations for heat transfer and thermal performance analysis
- Explores thermal energy storage, new developments, including materials, analysis, and design
- Examines CSP and PV power, and outlines what students need to learn for future upcoming developments in these areas
- Provides in detail solar central receiver systems, commonly known as power towers, including the design of a solar heliostat field, receiver/absorber, and higher temperature thermodynamic power cycles
- Details the latest developments in thin film solar cells
- Presents environmental applications of solar energy

Principles of Solar Engineering, Third Edition addresses the need for solar resource assessment, and highlights improvements and advancements involving photovoltaics and solar thermal technologies, grid power, and energy storage.

 [Download Principles of Solar Engineering, Third Edition ...pdf](#)

 [Read Online Principles of Solar Engineering, Third Edition ...pdf](#)

Principles of Solar Engineering, Third Edition

By D. Yogi Goswami

Principles of Solar Engineering, Third Edition By D. Yogi Goswami

An Engineering-Based Survey of Modern Solar Energy Concepts and Practical Applications

Reflecting major developments in solar energy since the publication of the last edition, **Principles of Solar Engineering, Third Edition** follows the changes in energy policies that have led to the rapid growth of solar energy systems. This latest edition focuses on the fundamentals and the design of systems for various applications including building, heating and cooling, industrial process heat, electric power plants (including PV and CSP), and environmental systems.

What's New in the Third Edition:

The third edition introduces new topics that include organic and dye sensitized solar cells in the photovoltaics chapter, advanced thermodynamic power cycles such as supercritical CO₂ cycle and information on design software packages. The chapters on solar radiation and solar thermal collectors have been completely changed. Because of its increased importance, solar thermal power is covered in much more depth than in the previous edition.

The book contains increased coverage of high temperature thermal storage for CSP in the chapter for energy storage and transport. It changes many end-of-chapter problems, provides examples and problems for both northern and southern hemispheres and countries around the world, includes a solutions manual, and revises the retained material. A significant change in the new edition is the addition of economic analysis in the first chapter, which includes a number of solved examples, and allows the students to analyze the applications in the later chapters from an economic stand point.

Designed to be both a textbook and a reference, this work:

- Introduces the global energy situation and addresses changes taking place in the distribution of available energy resources
- Covers concentrating and nonconcentrating solar thermal collectors in much more depth than before
- Highlights the latest developments in collector materials as well as new correlations for heat transfer and thermal performance analysis
- Explores thermal energy storage, new developments, including materials, analysis, and design
- Examines CSP and PV power, and outlines what students need to learn for future upcoming developments in these areas
- Provides in detail solar central receiver systems, commonly known as power towers, including the design

- of a solar heliostat field, receiver/absorber, and higher temperature thermodynamic power cycles
- Details the latest developments in thin film solar cells
- Presents environmental applications of solar energy

Principles of Solar Engineering, Third Edition addresses the need for solar resource assessment, and highlights improvements and advancements involving photovoltaics and solar thermal technologies, grid power, and energy storage.

Principles of Solar Engineering, Third Edition By D. Yogi Goswami Bibliography

- Sales Rank: #1471839 in Books
- Published on: 2015-02-20
- Original language: English
- Number of items: 1
- Dimensions: 9.30" h x 1.70" w x 6.20" l, 2.80 pounds
- Binding: Hardcover
- 822 pages

 [Download Principles of Solar Engineering, Third Edition ...pdf](#)

 [Read Online Principles of Solar Engineering, Third Edition ...pdf](#)

Editorial Review

Review

"The book is an excellent source of high quality information on current and advanced technological topics on solar energy. I intend to upgrade the textbook for my solar energy classes, by replacing the current 2nd edition with the 3rd edition of this book."

?Charles Cohn, Stevens Institute of Technology, Hoboken, New Jersey, USA

"This is a book written by one of the prominent experts in solar engineering. The treatment of the design and analysis of solar thermal heating and power generating systems is thorough and unparalleled."

?Dr. Teshome Jiru, Oregon Institute of Technology, Klamath Falls, USA

"The authors have done a nice job updating this edition of their classic textbook by enhancing the chapter on photovoltaics and by including more recent advances in solar thermal power technologies such as the supercritical Rankine cycle and the supercritical CO₂ power cycle."

?Dr. Kevin Anderson, Cal Poly Pomona, Mechanical Engineering, California, USA

"The organization of the book seems much better than the second edition... The present chapter eight is a great piece of work, which provides many details in solar thermal power design. To my best knowledge, no other textbook on solar engineering can compete with this book regarding this topic."

?Yuan Zheng, University of Wyoming, Laramie, USA

About the Author

Dr. D. Yogi Goswami is a distinguished university professor and director of the Clean Energy Research Center at the University of South Florida. He conducts fundamental and applied research on solar thermal power and cooling, photocatalytic detoxification and disinfection, thermodynamics, third-generation photovoltaics, and hydrogen production and storage. Professor Goswami is the editor in chief of *Solar Energy* and *Progress in Solar Energy*. He has published as an author or editor 17 books and more than 350 refereed technical papers. He also holds 16 patents, some of which have been successfully commercialized.

Users Review

From reader reviews:

Jack Cluck:

Have you spare time to get a day? What do you do when you have far more or little spare time? Yes, you can choose the suitable activity intended for spend your time. Any person spent their spare time to take a wander, shopping, or went to the particular Mall. How about open or maybe read a book entitled Principles of Solar Engineering, Third Edition? Maybe it is to be best activity for you. You already know beside you can spend your time along with your favorite's book, you can more intelligent than before. Do you agree with the opinion or you have other opinion?

Anh Huckaby:

This Principles of Solar Engineering, Third Edition book is not really ordinary book, you have it then the world is in your hands. The benefit you obtain by reading this book is usually information inside this guide incredible fresh, you will get information which is getting deeper you read a lot of information you will get. This kind of Principles of Solar Engineering, Third Edition without we realize teach the one who studying it become critical in pondering and analyzing. Don't become worry Principles of Solar Engineering, Third Edition can bring whenever you are and not make your carrier space or bookshelves' become full because you can have it in your lovely laptop even mobile phone. This Principles of Solar Engineering, Third Edition having excellent arrangement in word as well as layout, so you will not truly feel uninterested in reading.

Kristi Goins:

The guide with title Principles of Solar Engineering, Third Edition has a lot of information that you can discover it. You can get a lot of benefit after read this book. This kind of book exist new information the information that exist in this e-book represented the condition of the world today. That is important to yo7u to find out how the improvement of the world. This specific book will bring you in new era of the syndication. You can read the e-book on your smart phone, so you can read this anywhere you want.

Stella Keith:

As we know that book is vital thing to add our expertise for everything. By a e-book we can know everything we wish. A book is a group of written, printed, illustrated or maybe blank sheet. Every year was exactly added. This book Principles of Solar Engineering, Third Edition was filled regarding science. Spend your extra time to add your knowledge about your technology competence. Some people has distinct feel when they reading a new book. If you know how big selling point of a book, you can experience enjoy to read a book. In the modern era like now, many ways to get book that you simply wanted.

Download and Read Online Principles of Solar Engineering, Third Edition By D. Yogi Goswami #0EBPQM4SXU2

Read Principles of Solar Engineering, Third Edition By D. Yogi Goswami for online ebook

Principles of Solar Engineering, Third Edition By D. Yogi Goswami 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 Principles of Solar Engineering, Third Edition By D. Yogi Goswami books to read online.

Online Principles of Solar Engineering, Third Edition By D. Yogi Goswami ebook PDF download

Principles of Solar Engineering, Third Edition By D. Yogi Goswami Doc

Principles of Solar Engineering, Third Edition By D. Yogi Goswami Mobipocket

Principles of Solar Engineering, Third Edition By D. Yogi Goswami EPub

0EBPQM4SXU2: Principles of Solar Engineering, Third Edition By D. Yogi Goswami