

Physics & Astrophysics 2010



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Dear reader,

The books in this year's catalog exemplify the breadth, depth, and quality that we prize at Princeton University Press. In these difficult times, we are delighted to be seeing record-breaking sales of our books across the disciplines and genres in which we publish, and for that, we have our authors and our readers to thank.

Our trade science list is especially exciting this year, and it includes some new additions to our prestigious, popular-level *Science Essentials* series: Steven Gubser's pocket-sized guide to the lively frontiers of string theory, *The Little Book of String Theory*, and James Kasting's penetrating *How to Find a Habitable Planet*, which details exactly how astronomers go about finding Earth-like planets (and looking for signs of life) around other stars. These books—elucidating two of the hottest and most talked-about research areas today, and written by two celebrated researchers at the forefronts of their fields—are works you simply don't want to miss.

A number of extraordinary new texts and professional-level works are also to be found in the catalog in your hands. First, for students from any disciplinary background, we are extremely proud to present a revolutionary textbook by Richard Muller, *Physics and Technology for Future Presidents: An Introduction to the Essential Physics Every World Leader Needs to Know*, which is based on his resoundingly successful course for nonscience students at Berkeley. Plainly put, this book will change the way physics is taught to nonscientists at the college level. Also of particular interest is David Goodstein's incisive new book, *On Fact and Fraud*, which shines a discerning light on actual cases in which fraud was committed or alleged, giving readers the tools they need to identify (and avoid) fraud wherever it may arise. Bracing reading, this short book is a perfect fit for courses on scientific ethics, as well as a "must-have" in any scientist's personal library. New arrivals also include the latest title in our burgeoning *In a Nutshell* series: A. Zee's outstanding new edition of his classic and beloved *Quantum Field Theory in a Nutshell*. Lastly, the newest volumes in the *Princeton Series in Astrophysics* are also here—Sara Seager's highly anticipated text, *Exoplanet Atmospheres*, and Charles Dermer and Govind Menon's superb reference, *High Energy Radiation from Black Holes*.

Of course, these are just a few of the new books that we're excited for you to explore. Princeton University Press and I would like to thank you all—our readers, authors, and advisors—for your enduring support. We hope that you enjoy the books in this catalog and that you will continue to let us know what you would like to see in the future.

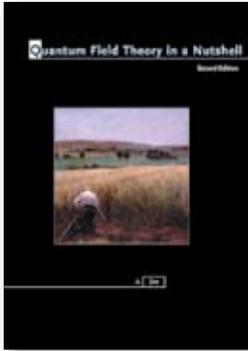
With very best wishes,

Ingrid Gnerlich

Senior Editor, Physical & Earth Sciences
Ingrid_Gnerlich@press.princeton.edu

In a Nutshell

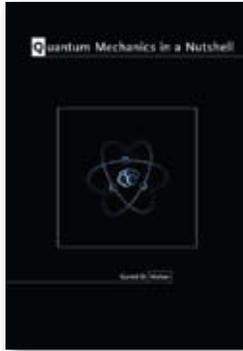
What's *In a Nutshell*? More of the best science than ever. *In a Nutshell* is a new series of concise, accessible, and up-to-date textbooks for advanced undergraduates and graduate students on key subjects in the physical sciences. Part of Princeton University Press's expanding presence in science textbook publishing, this high-profile series will bring out the highest quality texts on subjects ranging from astrophysics, nuclear physics, and string theory to particle physics, neutrino physics, electromagnetism, and magnetism. Crack open one of this season's new titles to find out just how much science fits *In a Nutshell*.



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**Quantum Field
Theory in a Nutshell**
A. Zee

See page 16 for details.

April 2010, 600 pages, 95 line illus.
Cl: 978-0-691-14034-6 \$65.00 | £44.95



New
**Quantum Mechanics
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Gerald D. Mahan

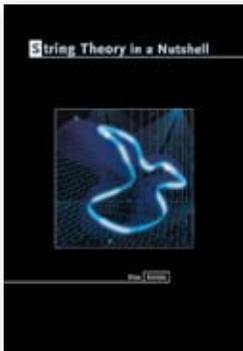
See page 16 for details.

2009, 414 pages, 58 line illus.
Cl: 978-0-691-13713-1 \$65.00 | £44.95



**Nuclear Physics in
a Nutshell**
Carlos A. Bertulani

2007, 488 pages, 50 line illus, 118 tables.
Cl: 978-0-691-12505-3 \$75.00 | £52.00



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a Nutshell**
Elias Kiritsis

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7 tables.
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See page 7 for details.

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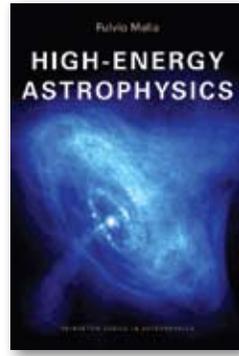
September 2010. 256 pages. 91 illus.
 Pa: 978-0-691-14645-4 \$45.00 | £30.95
 Cl: 978-0-691-11914-4 \$89.50 | £62.00



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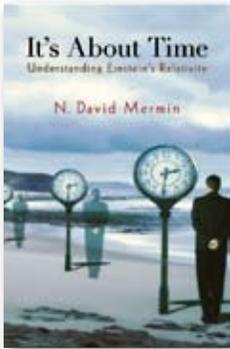


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See page 8 for details.

Princeton Series in Astrophysics

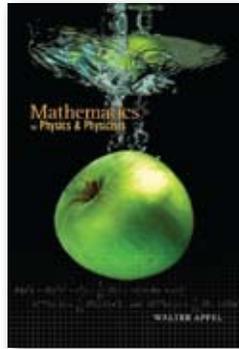
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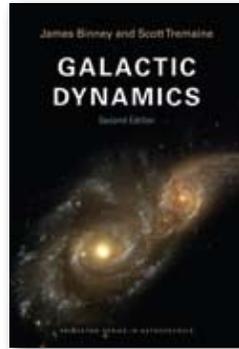
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2009. 208 pages. 13 halftones. 43 line illus.
 1 table.
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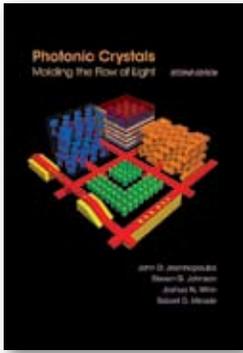


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Galactic Dynamics
**James Binney &
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2008. 904 pages. 20 color illus. 205 halftones.
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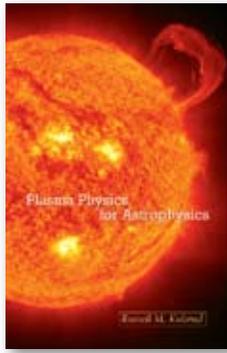


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 5 tables.

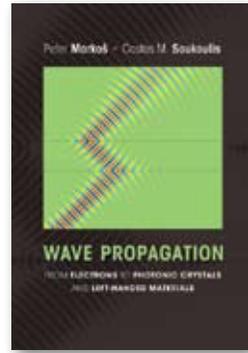
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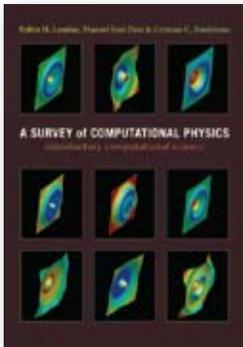
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2008. 368 pages. 75 line illus. 25 tables.
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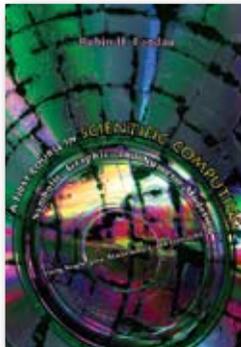


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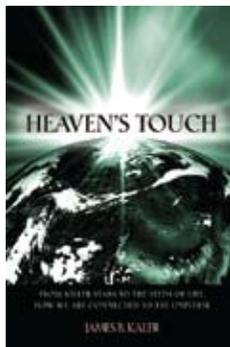
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Informative and entertaining, *Heaven's Touch* reveals how intimately connected we really are with the dynamic Universe in which we live.

James B. Kaler is professor emeritus of astronomy at the University of Illinois, Urbana-Champaign.

2009. 264 pages. 54 halftones. 5 line illus.
Cl: 978-0-691-12946-4 \$24.95 | £16.95

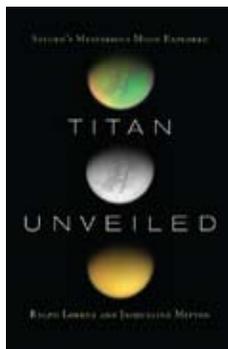
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In 2005, the Cassini-Huygens probe successfully parachuted down through the atmosphere of Titan, Saturn's largest and most mysterious moon. One of the researchers who made that mission possible was Ralph Lorenz. In *Titan Unveiled*, Lorenz, with Jacqueline Mitton, provides an insider's account of the scientific community's first close encounter with an alien landscape.

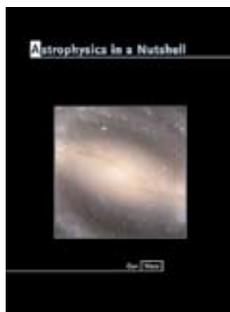
Ralph Lorenz is a planetary scientist at the Johns Hopkins University Applied Physics Laboratory. Jacqueline Mitton is a writer, editor, and media consultant in astronomy.

May 2010. 272 pages. 19 color illus. 65 halftones. 21 line illus. 2 tables.
Pa: 978-0-691-14633-1 \$19.95 | £13.95
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Robert Zimmerman



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Robert Zimmerman is an award-winning science writer and historian.

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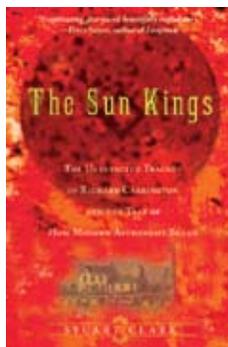
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Stuart Clark is a former editor of the United Kingdom's best-selling astronomy magazine, *Astronomy Now*.

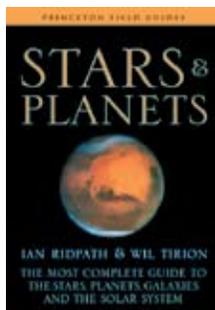
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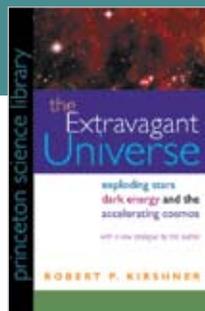
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Sara Seager is professor of planetary science and physics at the Massachusetts Institute of Technology.

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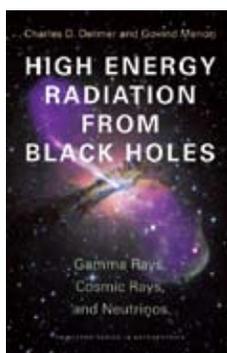
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Charles D. Dermer is a theoretical astrophysicist at the U.S. Naval Research Laboratory. Govind Menon is professor of physics at Troy University.

2009. 560 pages. 50 halftones. 50 line illus.

Pa: 978-0-691-14408-5 \$75.00 | £52.00

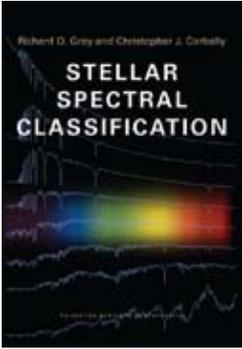
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Richard O. Gray is professor of astronomy at Appalachian State University. Christopher J. Corbally, SJ, is a vice director of the Vatican Observatory and adjunct associate professor of astronomy at the University of Arizona.

2009. 616 pages. 280 line illus.

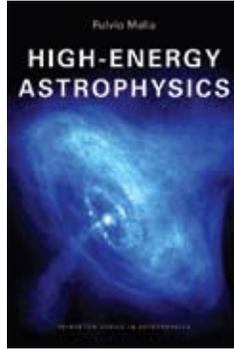
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New

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Fulvio Melia

TEXT



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Fulvio Melia is professor of physics and astronomy at the University of Arizona and associate editor of the *Astrophysical Journal Letters*.

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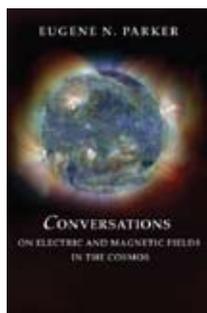
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"[T]here are still many exciting problems left."

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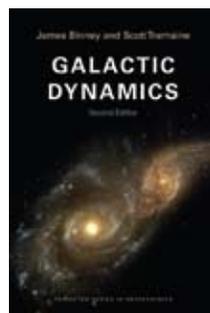
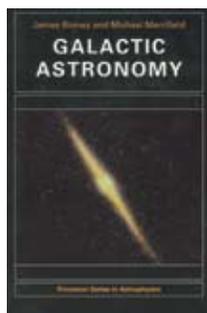
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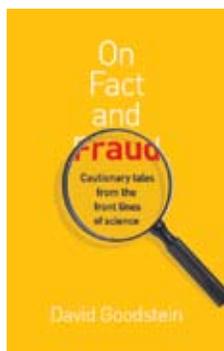


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David Goodstein is the Frank J. Gilloon Distinguished Teaching and Service Professor in the Department of Physics at the California Institute of Technology.

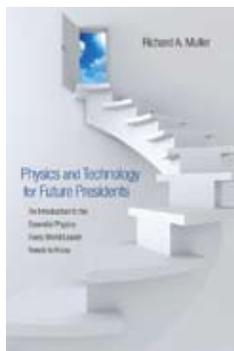
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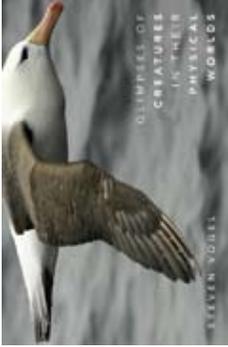
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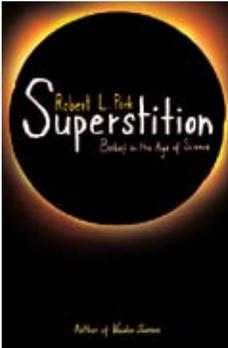
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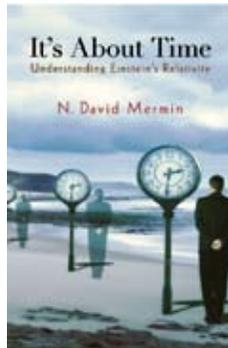
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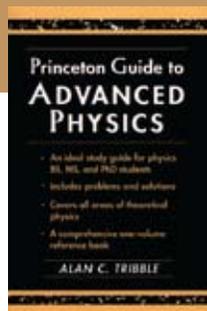
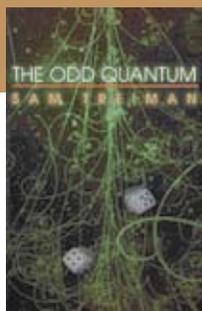
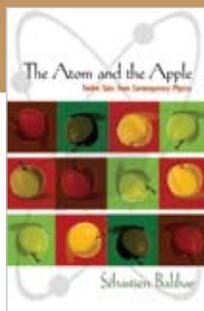
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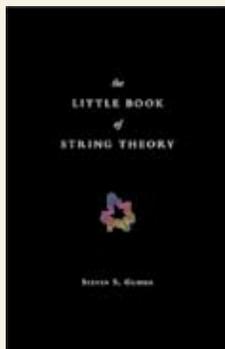
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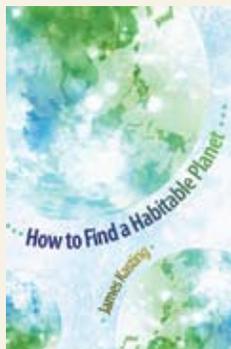
Steven S. Gubser is professor of physics at Princeton University.

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James Kasting is Distinguished Professor of Geosciences at Pennsylvania State University. He is a renowned expert in planetary atmospheric evolution and is actively involved in the search by NASA for habitable planets outside our solar system.

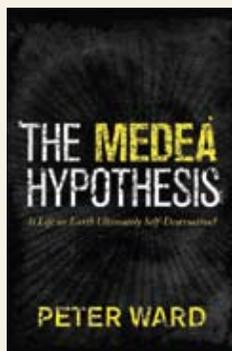
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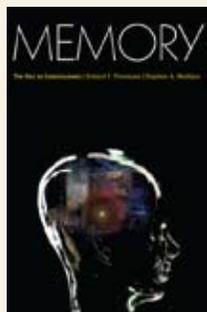
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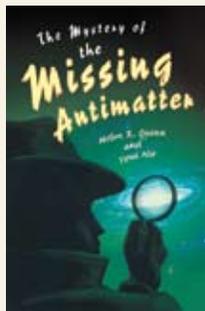
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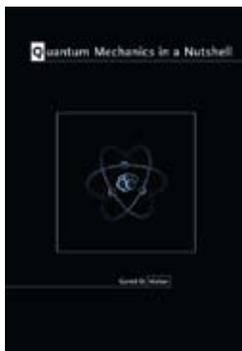
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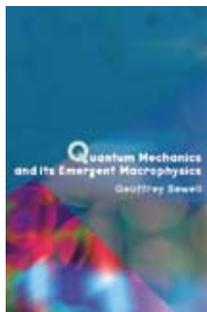
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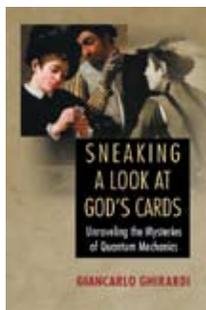
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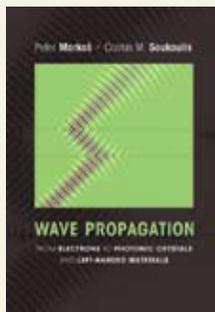
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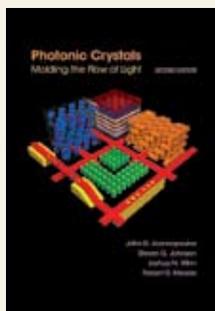
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Wally Broecker



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Wally Broecker is the Newberry Professor of Earth and Environmental Sciences at Columbia University.

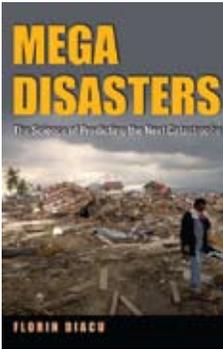
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Susan Hough is a seismologist with the Southern California Earthquake Center and a fellow of the American Geophysical Union.

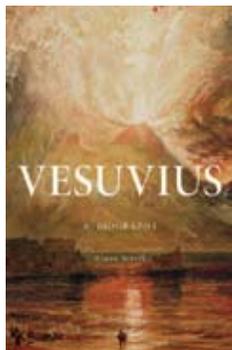
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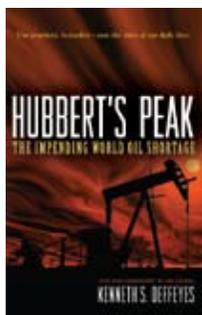
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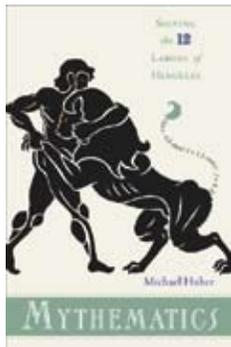
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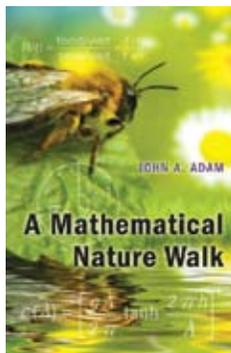
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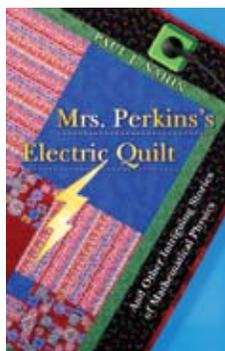
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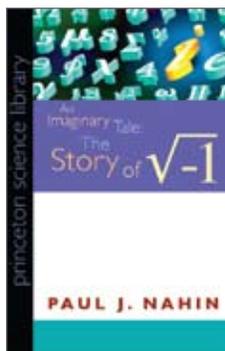
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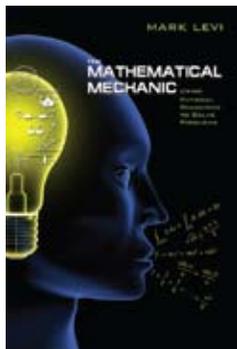
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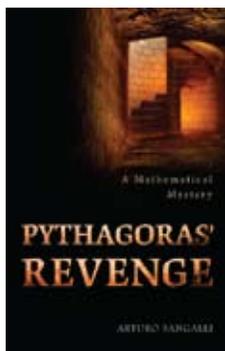
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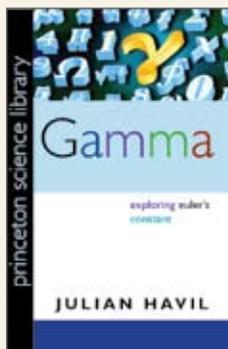
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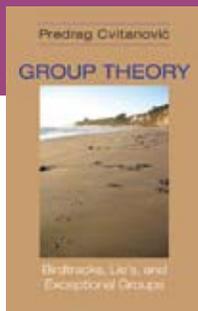
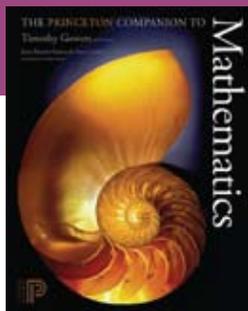
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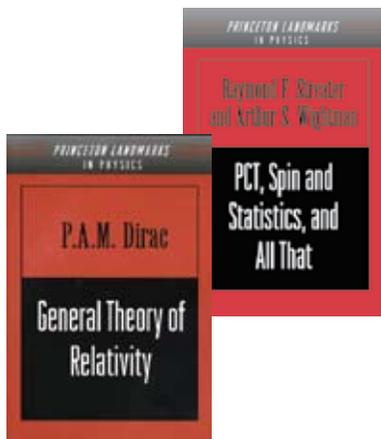
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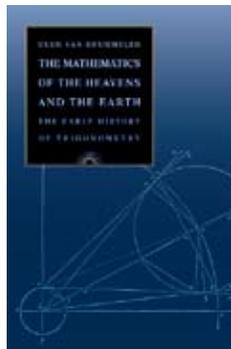
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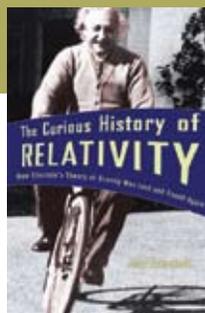
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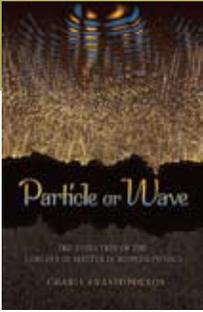
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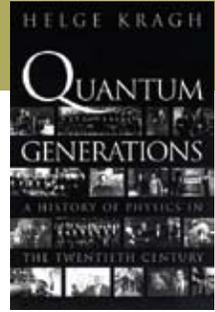
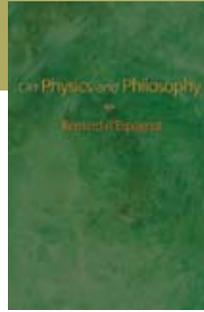
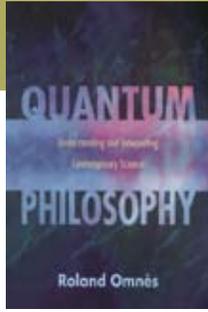
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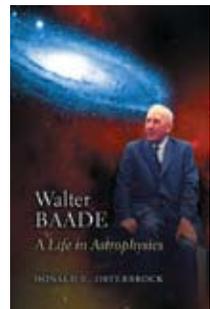
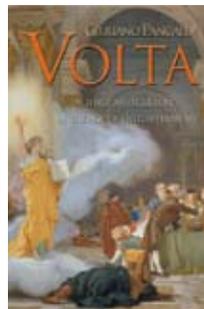
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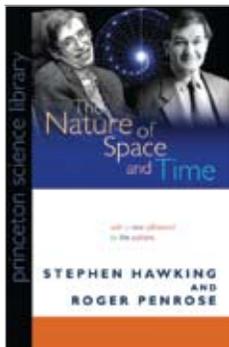
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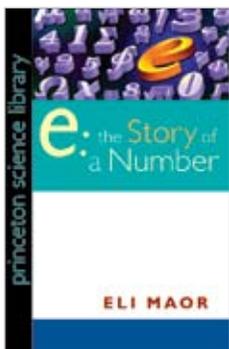
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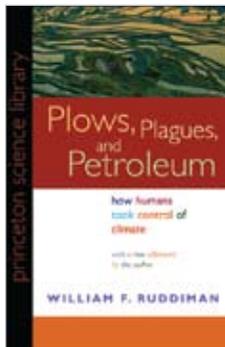
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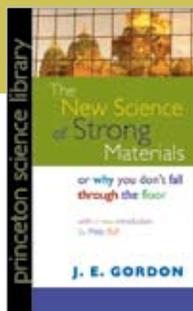
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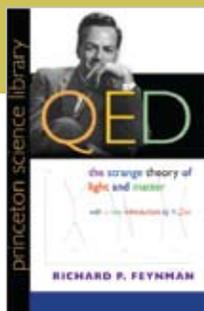
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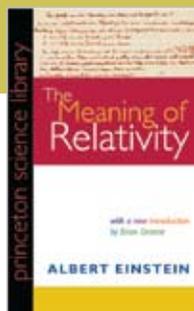
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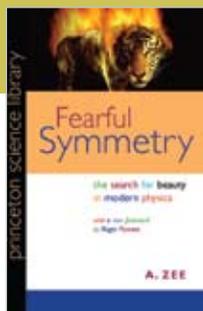
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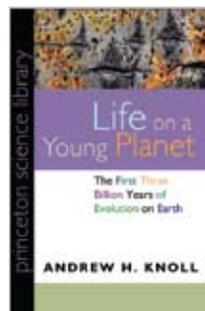
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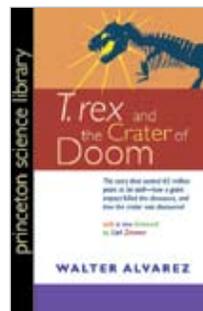
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