



Gravitation and Spacetime

By Hans C. Ohanian, Remo Ruffini

[Download now](#)

[Read Online](#) ➔

Gravitation and Spacetime By Hans C. Ohanian, Remo Ruffini

The third edition of this classic textbook is a quantitative introduction for advanced undergraduates and graduate students. It gently guides students from Newton's gravitational theory to special relativity, and then to the relativistic theory of gravitation. General relativity is approached from several perspectives: as a theory constructed by analogy with Maxwell's electrodynamics, as a relativistic generalization of Newton's theory, and as a theory of curved spacetime. The authors provide a concise overview of the important concepts and formulas, coupled with the experimental results underpinning the latest research in the field. Numerous exercises in Newtonian gravitational theory and Maxwell's equations help students master essential concepts for advanced work in general relativity, while detailed spacetime diagrams encourage them to think in terms of four-dimensional geometry. Featuring comprehensive reviews of recent experimental and observational data, the text concludes with chapters on cosmology and the physics of the Big Bang and inflation.

 [Download Gravitation and Spacetime ...pdf](#)

 [Read Online Gravitation and Spacetime ...pdf](#)

Gravitation and Spacetime

By Hans C. Ohanian, Remo Ruffini

Gravitation and Spacetime By Hans C. Ohanian, Remo Ruffini

The third edition of this classic textbook is a quantitative introduction for advanced undergraduates and graduate students. It gently guides students from Newton's gravitational theory to special relativity, and then to the relativistic theory of gravitation. General relativity is approached from several perspectives: as a theory constructed by analogy with Maxwell's electrodynamics, as a relativistic generalization of Newton's theory, and as a theory of curved spacetime. The authors provide a concise overview of the important concepts and formulas, coupled with the experimental results underpinning the latest research in the field. Numerous exercises in Newtonian gravitational theory and Maxwell's equations help students master essential concepts for advanced work in general relativity, while detailed spacetime diagrams encourage them to think in terms of four-dimensional geometry. Featuring comprehensive reviews of recent experimental and observational data, the text concludes with chapters on cosmology and the physics of the Big Bang and inflation.

Gravitation and Spacetime By Hans C. Ohanian, Remo Ruffini Bibliography

- Rank: #1772905 in Books
- Brand: Hans C Ohanian
- Published on: 2013-04-08
- Original language: English
- Number of items: 1
- Dimensions: 9.72" h x 1.18" w x 7.36" l, 2.45 pounds
- Binding: Hardcover
- 546 pages

 [Download Gravitation and Spacetime ...pdf](#)

 [Read Online Gravitation and Spacetime ...pdf](#)

Editorial Review

Review

"A most welcome updated third edition of this splendid textbook on gravitation and spacetime, which provides an excellent introduction to the mathematical and physical foundations underlying our current understanding of the physics and astrophysics of neutron stars, black holes, and gamma ray bursts."

Riccardo Giacconi, Nobel Laureate and University Professor, Johns Hopkins University

"This is by far the best grad level text in gravitational physics. It starts by showing that the natural Lorentz invariant generalization of Newton's scalar potential is a tensor, a perturbation of the usual Lorentz metric. The equivalence principle is then used to derive the full equations of GR. The last half of the book gives a beautiful treatment of black holes and the current model of Big Bang cosmology."

Roy P. Kerr, Prof. Emeritus, University of Canterbury, Christchurch, New Zealand

"The third edition of this wonderful book combines even more perfectly than the previous editions the beauty of Einstein's General Relativity with the physics of stars, galaxies, and the cosmos. It manages to do this in only 500 pages in a pedagogical masterpiece that should be a must for any graduate student in theoretical physics."

Hagen Kleinert, Professor of Physics, Freie Universität Berlin, Germany, and ICRA-Net Pescara, Italy, and Nice, France

"The best book on the market today of 500 pages or less on gravitation and general relativity."

John Wheeler, Princeton University [commenting on the first edition]

"I wish I had owned this book when I was trying to teach myself General Relativity for the first time."

The Observatory

About the Author

Hans C. Ohanian received his BS from the University of California, Berkeley, and his PhD from Princeton University, where he worked with John A. Wheeler. He has taught at Rensselaer Polytechnic Institute, the University of Vermont, and in summer courses at UNED in Spain. He has published several textbooks in addition to *Gravity and Spacetime*, including *Classical Electrodynamics* and *Principles of Quantum Mechanics*, as well as articles on various aspects of relativity and quantum theory.

Remo Ruffini is the Chair of Theoretical Physics at the University of Rome, where he received his PhD, and has also taught at Princeton University. He is an editor of the International Journal of Modern Physics and has acted as an advisor to NASA and the Italian Space Agency. In addition to *Gravitation and Spacetime*, his published works include *Cosmology from Space Platforms, Black Holes, Gravitational Waves and Cosmology*, *Basic Concepts in Relativistic Astrophysics*, *Gamow Cosmology* and various articles and edited volumes.

Users Review

From reader reviews:

Steven Tran:

The book Gravitation and Spacetime make you feel enjoy for your spare time. You should use to make your capable far more increase. Book can to be your best friend when you getting tension or having big problem along with your subject. If you can make looking at a book Gravitation and Spacetime to be your habit, you can get more advantages, like add your capable, increase your knowledge about several or all subjects. You can know everything if you like wide open and read a e-book Gravitation and Spacetime. Kinds of book are several. It means that, science e-book or encyclopedia or other folks. So , how do you think about this publication?

Beatrice Rogers:

The e-book untitled Gravitation and Spacetime is the e-book that recommended to you you just read. You can see the quality of the reserve content that will be shown to a person. The language that article author use to explained their ideas are easily to understand. The article writer was did a lot of study when write the book, hence the information that they share for your requirements is absolutely accurate. You also will get the e-book of Gravitation and Spacetime from the publisher to make you considerably more enjoy free time.

Walter Son:

Reading a book for being new life style in this season; every people loves to examine a book. When you learn a book you can get a wide range of benefit. When you read guides, you can improve your knowledge, since book has a lot of information on it. The information that you will get depend on what kinds of book that you have read. If you need to get information about your analysis, you can read education books, but if you act like you want to entertain yourself you can read a fiction books, this sort of us novel, comics, and soon. The Gravitation and Spacetime offer you a new experience in examining a book.

Sherry Holsey:

This Gravitation and Spacetime is brand new way for you who has interest to look for some information because it relief your hunger of knowledge. Getting deeper you into it getting knowledge more you know otherwise you who still having small amount of digest in reading this Gravitation and Spacetime can be the light food for you because the information inside this kind of book is easy to get simply by anyone. These books develop itself in the form which is reachable by anyone, sure I mean in the e-book contact form. People who think that in publication form make them feel sleepy even dizzy this publication is the answer. So there isn't any in reading a reserve especially this one. You can find what you are looking for. It should be here for a person. So , don't miss this! Just read this e-book sort for your better life and also knowledge.

Download and Read Online Gravitation and Spacetime By Hans C. Ohanian, Remo Ruffini #C904V3PT12O

Read Gravitation and Spacetime By Hans C. Ohanian, Remo Ruffini for online ebook

Gravitation and Spacetime By Hans C. Ohanian, Remo Ruffini 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 Gravitation and Spacetime By Hans C. Ohanian, Remo Ruffini books to read online.

Online Gravitation and Spacetime By Hans C. Ohanian, Remo Ruffini ebook PDF download

Gravitation and Spacetime By Hans C. Ohanian, Remo Ruffini Doc

Gravitation and Spacetime By Hans C. Ohanian, Remo Ruffini MobiPocket

Gravitation and Spacetime By Hans C. Ohanian, Remo Ruffini EPub

C904V3PT12O: Gravitation and Spacetime By Hans C. Ohanian, Remo Ruffini