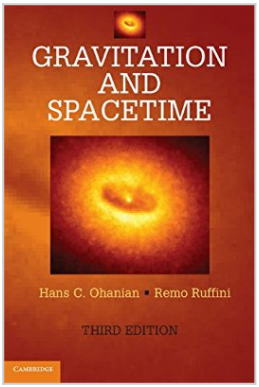

Gravitation and Spacetime

By Hans C. Ohanian, Remo Ruffini

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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.

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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

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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.

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