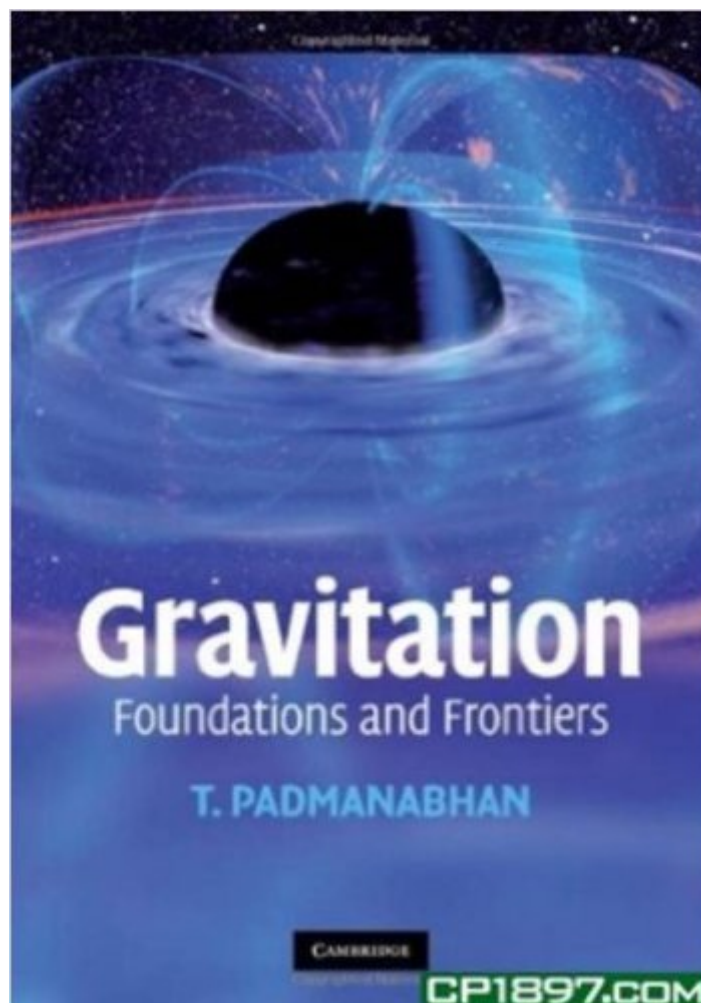


The book was found

Gravitation: Foundations And Frontiers



Synopsis

Covering all aspects of gravitation in a contemporary style, this advanced textbook is ideal for graduate students and researchers in all areas of theoretical physics. The 'Foundation' section develops the formalism in six chapters, and uses it in the next four chapters to discuss four key applications - spherical spacetimes, black holes, gravitational waves and cosmology. The six chapters in the 'Frontier' section describe cosmological perturbation theory, quantum fields in curved spacetime, and the Hamiltonian structure of general relativity, among several other advanced topics, some of which are covered in-depth for the first time in a textbook. The modular structure of the book allows different sections to be combined to suit a variety of courses. Over 200 exercises are included to test and develop the reader's understanding. There are also over 30 projects, which help readers make the transition from the book to their own original research.

Book Information

Hardcover: 728 pages

Publisher: Cambridge University Press; 1 edition (March 15, 2010)

Language: English

ISBN-10: 0521882230

ISBN-13: 978-0521882231

Product Dimensions: 6.8 x 1.4 x 9.7 inches

Shipping Weight: 3.4 pounds (View shipping rates and policies)

Average Customer Review: 5.0 out of 5 stars [See all reviews](#) (1 customer review)

Best Sellers Rank: #896,213 in Books (See Top 100 in Books) #100 in [Books > Science & Math > Physics > Gravity](#) #896 in [Books > Science & Math > Astronomy & Space Science > Cosmology](#) #903 in [Books > Textbooks > Science & Mathematics > Astronomy & Astrophysics](#)

Customer Reviews

It's surprising this book hasn't received any reviews here. This is possibly one of the finest general relativity textbooks existing today. Superbly modern in it's exposition of the general relativity. If you're asking why the IRF moves on geodesics, you'll find the answer to that here. If you're wondering why the relativistic Lagrangian is integral of $mc^2 ds$, you'll find the answer to that here, rather than shady arguments used in other books. Practically everything here is derived from variational principles, so GR just feels so natural. It's hard to believe that GR could even be thought of in such an eye-opening way. I can only imagine what a good expositor Professor Padmanabhan is like in real life. The Pros of the book: *The most illuminating problems and projects not present in

any other book.*Clear, concise writing and conceptual detail*Covers modern topics like QFT in curved spacetime (I haven't gotten here yet though)*Gives an introduction to the formulation of GR using differential forms*The only prerequisites are some analytical mechanics at the level of Goldstein, some basic electrodynamics, and some special relativity. He doesn't even assume any familiarity with 4 vectors. However, a prior acquaintance with GR would be good to have, I learnt my GR the first time with Hobson, Efstathiou and Lasenby, and then moved to this.*Almost no typos.The Cons:*Cosmology section is very brief and this could have been expanded greatly. This was disappointing and it felt like a stumble in the book. Then again, this is hardly an issue considering the entire book.In all, this book is pure gold. If 6 stars were available, I'd give it that.

[Download to continue reading...](#)

Gravitation: Foundations and Frontiers Group Theory for the Standard Model of Particle Physics and Beyond (Series in High Energy Physics, Cosmology and Gravitation) Relativity, Gravitation and Cosmology Nutritional Foundations and Clinical Applications: A Nursing Approach, 5e (Foundations and Clinical Applications of Nutrition) Foundations of GMAT Math, 5th Edition (Manhattan GMAT Preparation Guide: Foundations of Math) Simultaneous Localization and Mapping: Exactly Sparse Information Filters (New Frontiers in Robotics) CommonKADS Library for Expertise Modelling, Reusable Problem Solving Components (Frontiers in Artificial Intelligence and Applications) The Brain's Way of Healing: Remarkable Discoveries and Recoveries from the Frontiers of Neuroplasticity Expanding the Frontiers of Visual Analytics and Visualization The Brain That Changes Itself: Personal Triumphs from the Frontiers of Brain Science Escalation: The Frontiers Saga Part 2: Rogue Castes Professor Astro Cat's Frontiers of Space Guns on the Early Frontiers: From Colonial Times to the Years of the Western Fur Trade (Dover Military History, Weapons, Armor) Breaking the WTO: How Emerging Powers Disrupted the Neoliberal Project (EMERGING FRONTIERS IN THE GLOBAL ECONOMY) The Pursuit of the Ideal (Sunny Series, Frontiers in Education) Master of Adventure: The Worlds of Edgar Rice Burroughs (Bison Frontiers of Imagination) Building Better Robots (Science Frontiers (Paperback)) Beyond Frontiers: A Tax Guide for Non-U.S. Citizens A Guide to Six Sigma and Process Improvement for Practitioners and Students: Foundations, DMAIC, Tools, Cases, and Certification (2nd Edition) The Art of Avaz and Mohammad Reza Shajarian: Foundations and Contexts

[Dmca](#)