



Gravitation and Cosmology: Principles and Applications of the General Theory of Relativity

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Hardcover

ISBN: 978-0-471-92567-5

August 2013

\$219.95

DESCRIPTION

A leading physicist delves into relativity and experimental applications

Gravitation and Cosmology: Principles and Applications of the General Theory of Relativity offers a Nobel laureate's perspectives on the wealth of data technological developments have brought to expand upon Einstein's theory. Unique in basing relativity on the Principle of Equivalence of Gravitation and Inertia over Riemannian geometry, this book explores relativity experiments and observational cosmology to provide a sound foundation upon which analyses can be made. Covering special and general relativity, tensor analysis, gravitation, curvature, and more, this book provides an engaging, insightful introduction to the forces that shape the universe.

ABOUT THE AUTHOR

Steven Weinberg ForMemRS is an American theoretical physicist and Nobel laureate in Physics for his contributions with Abdus Salam and Sheldon Glashow to the unification of the weak force and electromagnetic interaction between elementary particles.

Introduction To General Relativity And Cosmology (Essential Textbooks in Physics). Christian G BÄ¶hmer. 5.0 out of 5 stars 8.Â The author takes a novel non-geometric approach to the General Theory of Relativity (GR). He shows how if we can discover the inner properties of a surface, we can then bypass the need for Riemannian geometry â€” by simply studying its metric. Said another way, the curvature of a geometric structure such as the earth, can be determined from its local inner properties. That is to say, through a sufficiently small region of space, whereby a local Euclidean coordinate system can be established, and the distance between any two points, satisfying the Pythagorean theorem can be computed. Part two the general theory of relativity. 3 THE PRINCIPLE OF EQUIVALENCE 67 1 Statement of the Principle 67 Equivalence of gravitation and inertia 0 Analogy with metric geometry 0 The weak and strong principles of equivalence. xiv Contents. 2 Gravitational Forces 70 The equation of motion D The affine connection D The metric tensor D Motion of photons D Light travel times D Determination of the locally inertial frames. Principles And Applications Of The General Theory Of Relativity (Wiley, 1972)(ISBN 0471925675)(685s). Item Preview. remove-circle.Â Weinberg S. Gravitation And Cosmology.. Principles And Applications Of The General Theory Of Relativity (Wiley, 1972)(ISBN 0471925675)(685s). by. Steven Weinberg.