1. Record Nr. UNINA9910742493203321

Autore	Liang Canbin
Titolo	Differential Geometry and General Relativity : Volume 1 / / by Canbin Liang, Bin Zhou
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2023
ISBN	981-9900-22-0
Edizione	[1st ed. 2023.]
Descrizione fisica	1 online resource (566 pages)
Collana	Graduate Texts in Physics, , 1868-4521
Altri autori (Persone)	ZhouBin JiaWeizhen
Disciplina	530.11
Soggetti	Gravitation Geometry, Differential Mathematical physics Cosmology Classical and Quantum Gravity Differential Geometry Mathematical Methods in Physics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Topological Spaces in Brief -- Manifolds and Tensor Fields -- The Riemann (Intrinsic) Curvature Tensor -- Lie Derivative, Killing Fields and Hypersurfaces -- Differential Forms and Their Integrals -- Special Relativity -- Foundations of General Relativity -- Solving the Einstein’s Equation -- Schwarzschild Spacetimes -- Cosmology -- Appendix: The Conversion Between Systems of Geometrized and Nongeometrized Units.
Sommario/riassunto	This book, the first in a three-volume set, explains general relativity using the mathematical tool of differential geometry. The book consists of ten chapters, the first five of which introduce differential geometry, which is widely applicable even outside the field of relativity. Chapter 6 analyzes special relativity using geometric language. In turn, the last four chapters introduce readers to the fundamentals of general relativity. Intended for beginners, this volume includes numerous exercises and worked-out example in each chapter to facilitate the learning experience. Chiefly written for graduate-level courses, the

book’s content will also benefit upper-level undergraduate students, and can be used as a reference guide for practicing theoretical physicists.