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Altri autori (Persone)	StruckmeierJürgen KirschJohannes
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Soggetti	Elementary particles (Physics) Quantum field theory Gravitation Cosmology Elementary Particles, Quantum Field Theory Classical and Quantum Gravity
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Nota di contenuto	Introduction -- Relativistic Space-times -- Theorem for Scalar-valued Functions of Absolute and Relative Tensors -- Gauge Theory of Gravity -- Spinor Representation of the Gauge Theory of Gravity for Fermions -- Noether's Theorem -- A Note on Birkhoff's Theorem -- Implications to Cosmology.
Sommario/riassunto	This book starts with the mathematical basis of the theory - i.e. provide a brief sketch of the theory of manifolds and frame bundles, tensors and their transformations, relativistic kinematics, and aspects of non-flat space-time geometries. The definition of relevant physical quantities (torsion, curvature, non-metricity, tetrads, connection fields etc.) and important geometry concepts are also included. The main body of the book is devoted to a detailed derivation of the gauge theory of gravitation for scalar, vector (Proca and Maxwell) and Dirac spinor fields. Alternative approaches based on the Noether theorem and on the spinorial representation of the fields are also addressed, as well as important novel features related to the CCGG framework

(Birkhoff theorem, field derivative identities etc.). In the last section of the volume the application of the CCGG theory to cosmology will be set out, resulting in a new understanding of dark energy and inflation. .

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