

1. Record Nr.	UNINA9910739488003321
Autore	Collas Peter
Titolo	The Dirac Equation in Curved Spacetime : A Guide for Calculations // by Peter Collas, David Klein
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2019
ISBN	3-030-14825-4
Edizione	[1st ed. 2019.]
Descrizione fisica	1 online resource (111 pages)
Collana	SpringerBriefs in Physics, , 2191-5423
Disciplina	530.12
Soggetti	Quantum theory Gravitation Physics Quantum Physics Classical and Quantum Gravitation, Relativity Theory Mathematical Methods in Physics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Introduction -- The Dirac equation in special relativity -- The spinorial covariant derivative -- Examples in (3+1) GR -- The Dirac equation in (1+1) GR -- The Dirac equation in (2+1) GR -- Scalar product -- Appendices.
Sommario/riassunto	This book explains and develops the Dirac equation in the context of general relativistic quantum mechanics in a range of spacetime dimensions. It clarifies the subject by carefully pointing out the various conventions used and explaining how they are related to each other. The prerequisites are familiarity with general relativity and an exposure to the Dirac equation at the level of special relativistic quantum mechanics, but a review of this latter topic is given in the first chapter as a reference and framework for the physical interpretations that follow. Worked examples and exercises with solutions are provided. Appendices include reviews of topics used in the body of the text. This book should benefit researchers and graduate students in general relativity and in condensed matter.

