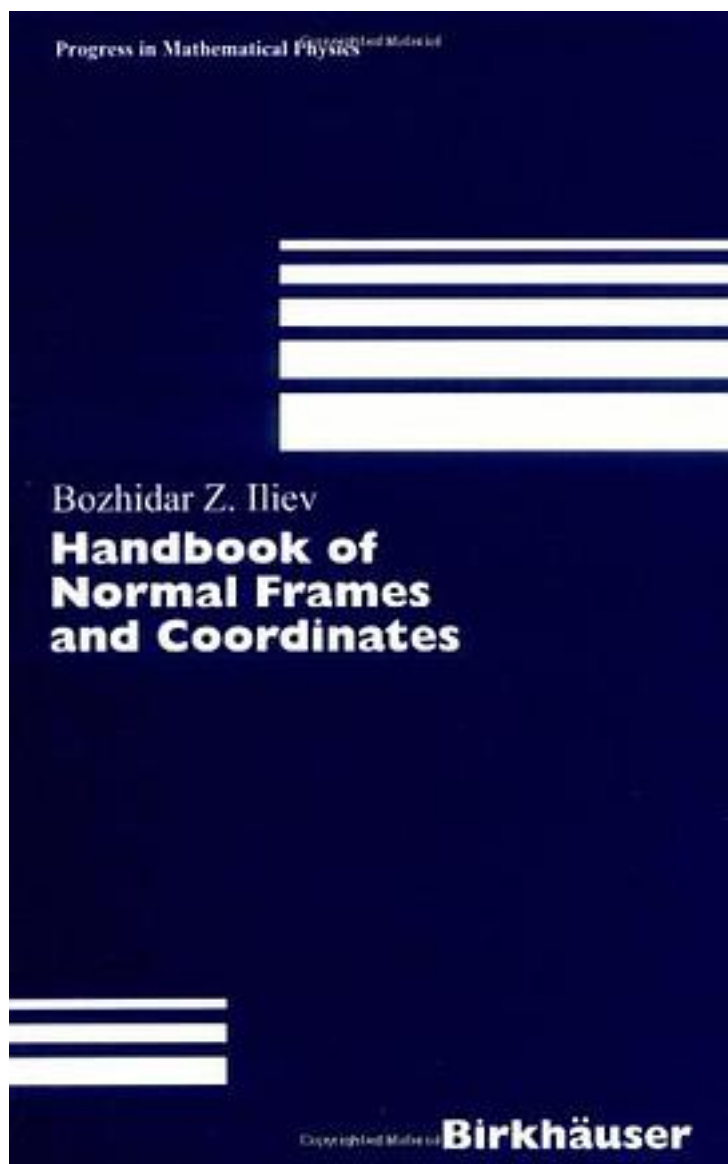# Handbook of Normal Frames and Coordinates

[Handbook of Normal Frames and Coordinates_下载链接1_](#)

著者:Iliev, Bozhidar Z.

出版者:Springer Verlag

出版时间:

装帧:HRD

isbn:9783764376185

The main subject of the book is an up-to-date and in-depth survey of the theory of normal frames and coordinates in differential geometry. The book can be used as a reference manual, a review of the existing results and an introduction to some new ideas and developments. Practically all existing essential results and methods concerning normal frames and coordinates can be found in the book. Most of the results are represented in detail with full, in some cases new, proofs. All classical results are expanded and generalized in various directions. The normal frames and coordinates, for example, are defined and investigted for different kinds of derivations, in particular for (possibly linear) connections (with or without torsion) on manifolds, in vector bundes and on differentiable bundles; they are explored also for (possibly parallel) transports along paths in vector bundles. Theorems of existence, uniqueness and, possibly, holonomicity of the normal frames and coordinates are proved; mostly, the proofs are constructive and some of their parts can be used independently for other tasks. Besides published results, their extensions and generalizations, the book contains completely new results which appear for the first time, such as for instance some links between (existence of) normal frames/coordinates in vector bundles and curvature/torsion. As secondary items, elements of the theory of (possibly linear) connections on manifolds, in vector bundles and on differentiable bundles and of (possibly parallel or linear) transports along paths in vector and on differentiable bundles are presented. The theory of the monograph is illustrated with a number of examples and exercices. The contents of the book can be used for applications in differential geometry, e.g. in the theories of (linear) connections and (linear or parallel) transports along paths, and in the theoretical/mathematical physics, e.g. in the theories of gravitation, gauge theories and fibre bundle versions of quantum mechanics and (Lagrangian) classical and quantum field theories. The potential audience ranges from graduate and postgraduate students to research scientists working in the fields of differential geometry and theoretical/mathematical physics.

作者介绍:

目录:

Handbook of Normal Frames and Coordinates_下载链接1_

标签

评论

[Handbook of Normal Frames and Coordinates_下载链接1_](#)

书评

[Handbook of Normal Frames and Coordinates_下载链接1_](#)

[Handbook of Normal Frames and Coordinates_下载链接1_](#)