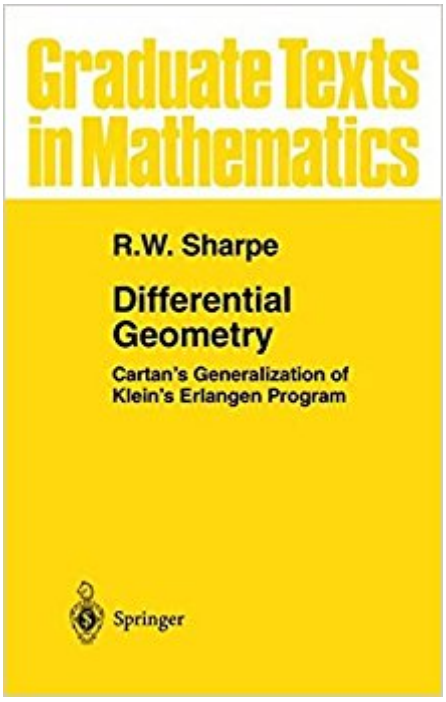
Differential Geometry: Cartan's Generalization Of Klein's Erlangen Program (Graduate Texts In Mathematics, Vol. 166)



Synopsis

Cartan geometries were the first examples of connections on a principal bundle. They seem to be almost unknown these days, in spite of the great beauty and conceptual power they confer on geometry. The aim of the present book is to fill the gap in the literature on differential geometry by the missing notion of Cartan connections. Although the author had in mind a book accessible to graduate students, potential readers would also include working differential geometers who would like to know more about what Cartan did, which was to give a notion of "espaces gÃ©nÃ©ralisÃ©s" (= Cartan geometries) generalizing homogeneous spaces (= Klein geometries) in the same way that Riemannian geometry generalizes Euclidean geometry. In addition, physicists will be interested to see the fully satisfying way in which their gauge theory can be truly regarded as geometry.

Book Information

Series: Graduate Texts in Mathematics (Book 166)

Hardcover: 426 pages

Publisher: Springer; Corrected edition (November 21, 2000)

Language: English

ISBN-10: 0387947329

ISBN-13: 978-0387947327

Product Dimensions: 6.1 x 1.1 x 9.2 inches

Shipping Weight: 1.6 pounds (View shipping rates and policies)

Average Customer Review: 4.8 out of 5 starsÂ Â See all reviewsÂ (5 customer reviews)

Best Sellers Rank: #1,300,975 in Books (See Top 100 in Books) #175 inÂ Books > Science & Math > Mathematics > Geometry & Topology > Differential Geometry #728 inÂ Books > Textbooks > Science & Mathematics > Mathematics > Geometry

Customer Reviews

Sharpe’s book is a detailed argument supporting the assertion that most of differential geometry can be considered the study of principal bundles and connections on them, disguised as an introductory differential geometry textbook.Some standard introductory material (e.g. Stokes’ theorem) is omitted, as Sharpe confesses in his preface, but otherwise this is a truly wonderful place to read about the central role of Lie groups, principal bundles, and connections in differential geometry. The theme is that what one can do for Lie groups, one can do fiberwise for principal bundles, to yield information about the base.The informal style (just look at the table of contents) and wealth of classical examples make this book a pleasure to read. While its somewhat nonstandard approach

and preference for classical terminology might confuse those who have never been introduced to the concepts, this is a perfect *second* place to read and marvel about differential geometry.

This is a truly unique introduction to differential geometry. The role of Lie groups in differential geometry, which is often somewhat ambiguous in other introductory texts, is emphasized. Following the philosophy that geometry is determined by the symmetries we are interested in, Cartan geometry is a framework that encompasses nearly all differential geometric structures of interest, including Riemannian and semi-Riemannian geometry (the geometry of Relativity), CR geometry, conformal geometry, projective geometry, and many others. This is the best introductory text to Cartan geometry. A good second text on Cartan geometry once you are finished with this one is Cap and Slovak's Parabolic Geometry.

I was fortunate enough to have Sharpe as my supervisor at University of Toronto just when his book was published. His highly abstract thinking is very impressive and I have enjoyed immensely his first chapter on differential topology, which is my specialized area. Though his book branches off into realms that don't particularly suit me, the beginnings of his book had given me great inspiration in my discipline in differential topology

This is definitely a graduate school text. Though I believe the text can be read by a eager undergraduate. The text is about Differential Geometry.The subject matter demands that the reader read more than 1 book on the subject. This is a good introduction to a difficult but useful mathematical discipline.

The book "Differential Geometry: Cartan's Generalization of Klein's Erlangen Program", purchase from NRVBOOKSPLUS via .COM, exceed my expectations! It's completely new. It seems that no one has ever opened it. Also, I received the product very quickly. I'm so pleased with this purchase ande really recommend this seller.

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