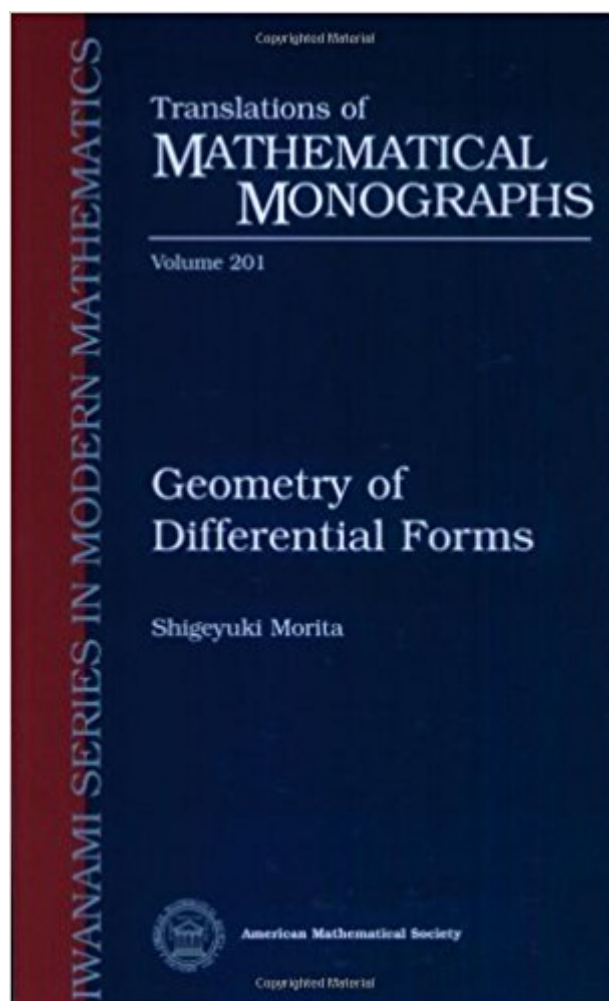


The book was found

Geometry Of Differential Forms (Translations Of Mathematical Monographs, Vol. 201)



Synopsis

Since the times of Gauss, Riemann, and Poincaré, one of the principal goals of the study of manifolds has been to relate local analytic properties of a manifold with its global topological properties. Among the high points on this route are the Gauss-Bonnet formula, the de Rham complex, and the Hodge theorem; these results show, in particular, that the central tool in reaching the main goal of global analysis is the theory of differential forms. The book by Morita is a comprehensive introduction to differential forms. It begins with a quick introduction to the notion of differentiable manifolds and then develops basic properties of differential forms as well as fundamental results concerning them, such as the de Rham and Frobenius theorems. The second half of the book is devoted to more advanced material, including Laplacians and harmonic forms on manifolds, the concepts of vector bundles and fiber bundles, and the theory of characteristic classes. Among the less traditional topics treated is a detailed description of the Chern-Weil theory. The book can serve as a textbook for undergraduate students and for graduate students in geometry.

Book Information

Series: Translations of Mathematical Monographs (Book 201)

Paperback: 321 pages

Publisher: American Mathematical Society (August 28, 2001)

Language: English

ISBN-10: 0821810456

ISBN-13: 978-0821810453

Product Dimensions: 1 x 5.5 x 8.5 inches

Shipping Weight: 15.2 ounces (View shipping rates and policies)

Average Customer Review: 4.8 out of 5 stars See all reviews (9 customer reviews)

Best Sellers Rank: #673,377 in Books (See Top 100 in Books) #87 in Books > Science & Math > Mathematics > Geometry & Topology > Differential Geometry #313 in Books > Science & Math > Mathematics > Applied > Differential Equations #387 in Books > Textbooks > Science & Mathematics > Mathematics > Geometry

Customer Reviews

This must be surely one of the bests if not the best introduction into the world of differential geometry (and some aspects of algebraic topology) that has been written. The author does a marvelous job of teaching and explaining the concepts for an audience that goes from

mathematicians to physicists. As another reviewer pointed out it is a mathematical text but written with enough informality at some places which eases the lecture of the whole material, providing further insight and even some historical notes (like for example the fact that Ehresmann made the last contribution to date in the definition of a connection in fiber bundles). Among the things that I like to point out are that with this book I finally understood the concept of paracompactness, the support of a function, the concept of a partition of unity, etc. The clarity in the presentation of material is throughout crystal clear, I found no better place for the definition of a manifold for example or the demonstration of Stoke's theorem. Also it gives the best motivation for the equation of a geodesic, i.e. that the covariant derivative of its tangent vector must vanish, this is motivated from the case of a surface embedded in $\mathbb{R}^3$, where it is explained that geodesics in the surface are the ones whose acceleration vector are normal to the surface which means that the derivative of its velocity vector tangential to the surface is zero, so the covariant derivative equal zero for the tangent vector (the velocity vector) is the generalization of this situation for a general manifold which may not be embedded in a higher dimensional space. I also like the discussion or presentation if you like of the Riemann curvature tensor.

[Download to continue reading...](#)

Geometry of Differential Forms (Translations of Mathematical Monographs, Vol. 201) Elementary Algebraic Geometry (Student Mathematical Library, Vol. 20) (Student Mathematical Library, V. 20) Sasakian Geometry (Oxford Mathematical Monographs) Some Novel Types of Fractal Geometry (Oxford Mathematical Monographs) Cell Biology of Tooth Enamel Formation: Functional Electron Microscopic Monographs (Monographs in Oral Science, Vol. 14) A Comprehensive Introduction to Differential Geometry, Vol. 1, 3rd Edition Differential Geometry: Cartan's Generalization of Klein's Erlangen Program (Graduate Texts in Mathematics, Vol. 166) How To Create Word Forms With ActiveX Controls (How To Create Forms In Word & Excel 2010) Residential Inspector's Guide to Codes, Forms, & Complaints (Residential Inspector's Guide to Codes, Forms, and Complaints) Contractor's legal forms and guides (500 legal forms book series for alllegaldocuments.com 1) Winning Your Personal Injury Claim: With Sample Forms and Worksheets (Self-Help Law Kit With Forms) The Encyclopedia of Real Estate Forms & Agreements: A Complete Kit of Ready-to-Use Checklists, Worksheets, Forms, and Contracts - With Companion CD-ROM Pharmaceutical Dosage Forms: Tablets, Third Edition (Three-Volume Set): Pharmaceutical Dosage Forms: Tablets, Volume 1, Second Edition Tensors, Differential Forms, and Variational Principles (Dover Books on Mathematics) Transformation Groups for Beginners (Student Mathematical Library, Vol. 25) (Student Mathematical Library, V. 25) MASON JAR RECIPES BOOK SET 5 book in 1: Meals in

Jars (vol.1); Salads in Jars (Vol. 2); Desserts in Jars (Vol. 3); Breakfasts in Jars (Vol. 4); Gifts in Jars (Vol. 5): Easy Mason Jar Recipe Cookbooks Differential Equations and Boundary Value Problems: Computing and Modeling (5th Edition) (Edwards/Penney/Calvis Differential Equations) Ferri's Differential Diagnosis: A Practical Guide to the Differential Diagnosis of Symptoms, Signs, and Clinical Disorders, 2e (Ferri's Medical Solutions) Differential Equations: Computing and Modeling (5th Edition) (Edwards/Penney/Calvis Differential Equations) Fundamentals of Differential Equations (8th Edition) (Featured Titles for Differential Equations)

[Dmca](#)