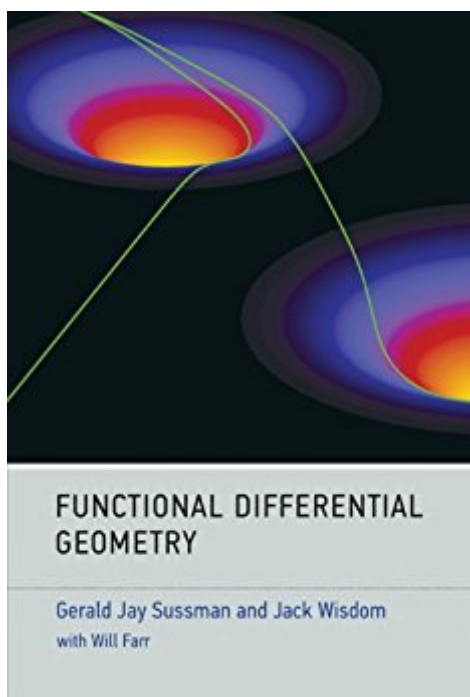


The book was found

# Functional Differential Geometry (MIT Press)



## Synopsis

Physics is naturally expressed in mathematical language. Students new to the subject must simultaneously learn an idiomatic mathematical language and the content that is expressed in that language. It is as if they were asked to read *Les Misérables* while struggling with French grammar. This book offers an innovative way to learn the differential geometry needed as a foundation for a deep understanding of general relativity or quantum field theory as taught at the college level. The approach taken by the authors (and used in their classes at MIT for many years) differs from the conventional one in several ways, including an emphasis on the development of the covariant derivative and an avoidance of the use of traditional index notation for tensors in favor of a semantically richer language of vector fields and differential forms. But the biggest single difference is the authors' integration of computer programming into their explanations. By programming a computer to interpret a formula, the student soon learns whether or not a formula is correct. Students are led to improve their program, and as a result improve their understanding.

## Book Information

File Size: 5610 KB

Print Length: 256 pages

Publisher: The MIT Press (July 5, 2013)

Publication Date: July 5, 2013

Sold by: Digital Services LLC

Language: English

ASIN: B00IZQX8NC

Text-to-Speech: Not enabled

X-Ray: Not Enabled

Word Wise: Not Enabled

Lending: Not Enabled

Enhanced Typesetting: Not Enabled

Best Sellers Rank: #962,100 Paid in Kindle Store (See Top 100 Paid in Kindle Store) #32

in Kindle Store > Kindle eBooks > Nonfiction > Science > Mathematics > Geometry & Topology >

Differential Geometry #172 in Kindle Store > Kindle eBooks > Nonfiction > Science > Physics >

Relativity #230 in Books > Science & Math > Mathematics > Geometry & Topology > Differential

Geometry

## Customer Reviews

This is a great book! In the same spirit of *Structure and Interpretation of Classical Mechanics* -- in order to really understand differential geometry, you write programs to do the computations. Sussman and Wisdom were very careful and start from the very basics up to applications on relativity and electrodynamics. There is a long appendix on notation and two shorter appendices, one explaining the basics of Scheme (the programming language used in the book), and another with a minimalist introduction to tensors.

A solid account of Differential Geometry to study core concepts. Having computational assets embedded in the theory is an excellent idea. Suggestion: The use of Scheme might be supplemented by Clojure as a online resource. The appendix of tensors is a good refresher. Clearly aimed as an introductory text, it succeeds admirably.

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

Functional Differential Geometry (MIT Press) Zeitmanagement mit Microsoft Office Outlook, 8. Auflage (einschl. Outlook 2010): Die Zeit im Griff mit der meistgenutzten BÄ roftware - Strategien, Tipps ... (Versionen 2003 - 2010) (German Edition) Functional Programming in JavaScript: How to improve your JavaScript programs using functional techniques Differential Equations and Boundary Value Problems: Computing and Modeling (5th Edition) (Edwards/Penney/Calvis Differential Equations) Clinical Functional MRI: Presurgical Functional Neuroimaging (Medical Radiology) Wheater's Functional Histology: A Text and Colour Atlas (FUNCTIONAL HISTOLOGY (WHEATER'S)) 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) Applied Partial Differential Equations with Fourier Series and Boundary Value Problems (5th Edition) (Featured Titles for Partial Differential Equations) Fundamentals of Differential Equations and Boundary Value Problems (6th Edition) (Featured Titles for Differential Equations) Student Solutions Manual for Differential Equations: Computing and Modeling and Differential Equations and Boundary Value Problems: Computing and Modeling Differential Geometry (Dover Books on Mathematics) Differential Geometry of Curves and Surfaces Geometry of Differential Forms (Translations of Mathematical Monographs, Vol. 201) Differential Geometry of Complex Vector Bundles (Princeton Legacy Library) 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) Elementary Topics in Differential Geometry

(Undergraduate Texts in Mathematics) Differential Geometry of Curves and Surfaces: Revised and Updated Second Edition (Dover Books on Mathematics)

[Dmca](#)