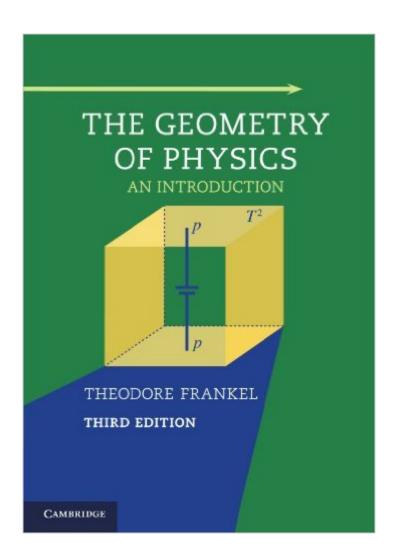
## The book was found

# The Geometry Of Physics: An Introduction





## Synopsis

This book provides a working knowledge of those parts of exterior differential forms, differential geometry, algebraic and differential topology, Lie groups, vector bundles, and Chern forms that are helpful for a deeper understanding of both classical and modern physics and engineering. It is ideal for graduate and advanced undergraduate students of physics, engineering or mathematics as a course text or for self study. A main addition introduced in this Third Edition is the inclusion of an Overview, which can be read before starting the text. This appears at the beginning of the text, before Chapter 1. Many of the geometric concepts developed in the text are previewed here and these are illustrated by their applications to a single extended problem in engineering, namely the study of the Cauchy stresses created by a small twist of an elastic cylindrical rod about its axis.

### **Book Information**

Paperback: 748 pages

Publisher: Cambridge University Press; 3 edition (December 26, 2011)

Language: English

ISBN-10: 1107602602

ISBN-13: 978-1107602601

Product Dimensions: 6.8 x 1.3 x 9.7 inches

Shipping Weight: 3.3 pounds (View shipping rates and policies)

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

Best Sellers Rank: #432,068 in Books (See Top 100 in Books) #52 in Books > Science & Math >

Mathematics > Geometry & Topology > Differential Geometry #80 in Books > Science & Math >

Mathematics > Geometry & Topology > Topology #243 in Books > Textbooks > Science &

Mathematics > Mathematics > Geometry

#### Customer Reviews

Some texts are designed to increase understanding, others to aid in practical computation, making them as much references as pedagogic tools. The latter are especially suited for self study. In this new edition, Frankel does something amazing-- instead of completely reorganizing an already stellar text, he "ties it all together" with a new "example" introduction-- a 34 page (roman numeral numbered!) "preface" illustrating Cartan's exterior differential forms with a "metal torsion" example application to Cauchy's stress tensor. Don't mistakely think that this means Frankel limits this text to the differential geometry of engineering mechanics and materials-- he covers a vast field of physics all the way from classic to quantum, sans string but with numerous gauge applications, in 750

packed pages, most containing fully worked out calculations for the aforementioned reference value. It seems today that all publishers just parrot "for grad students or advanced undergrads with a year of calculus and some linear algebra." Is this to sell more books? Not sure, but I wouldn't tackle this for self study or even calculative reference without "advanced" calculus (in my definition, analysis) PLUS a good course in analytic geometry first. Although this is packed with AG, it does not start by teaching AG-- the geometry knowledge is assumed, and we're then treated to an astonishing adventure of detailed APPLICATIONS of geometry to nearly every aspect of physics, including numerous cutting edge and intractable problems. There also are NUMEROUS engineering applications examples, blending physics, engineering and geometry in a way no other text even attempts. I've long felt that some pundits who tease the Greeks for seeing everything as geometric would someday eat their words. Well..

#### Download to continue reading...

The Solid State: An Introduction to the Physics of Crystals for Students of Physics, Materials Science, and Engineering (Oxford Physics Series) Geometry, Topology and Physics, Second Edition (Graduate Student Series in Physics) Geometry Illuminated: An Illustrated Introduction to Euclidean and Hyperbolic Plane Geometry (Maa Textbooks) The Geometry of Physics: An Introduction Open Geometry: OpenGL® + Advanced Geometry Geometry (Holt McDougal Larson Geometry) Glencoe Geometry, Student Edition (MERRILL GEOMETRY) Geometry Student Edition CCSS (MERRILL GEOMETRY) Geometry, Study Guide and Intervention Workbook (MERRILL GEOMETRY) Holt McDougal Accelerated Coordinate Algebra/Analytic Geometry A Georgia: Student Workbook Coordinate Algebra/Analytic Geometry A Taxicab Geometry: An Adventure in Non-Euclidean Geometry (Dover Books on Mathematics) Order In Chaos: How The Mandelbrot Set & Fractal Geometry Help Unlock the Secrets of The Entire Universe! (Mandelbrot Set, Fractal Geometry) Geometry, Student Edition (MERRILL GEOMETRY) Introduction to Chemical Physics (International Series In Pure And Applied Physics) Multivariable Calculus and Mathematica: With Applications to Geometry and Physics Many-Body Physics, Topology and Geometry Medical Health Physics: Health Physics Society 2006 Summer School Light Science: Physics and the Visual Arts (Undergraduate Texts in Contemporary Physics) It Does Matter!: Different States of Matter (For Kiddie Learners): Physics for Kids - Molecular Theory (Children's Physics Books) Physics from Symmetry (Undergraduate Lecture Notes in Physics)

**Dmca**