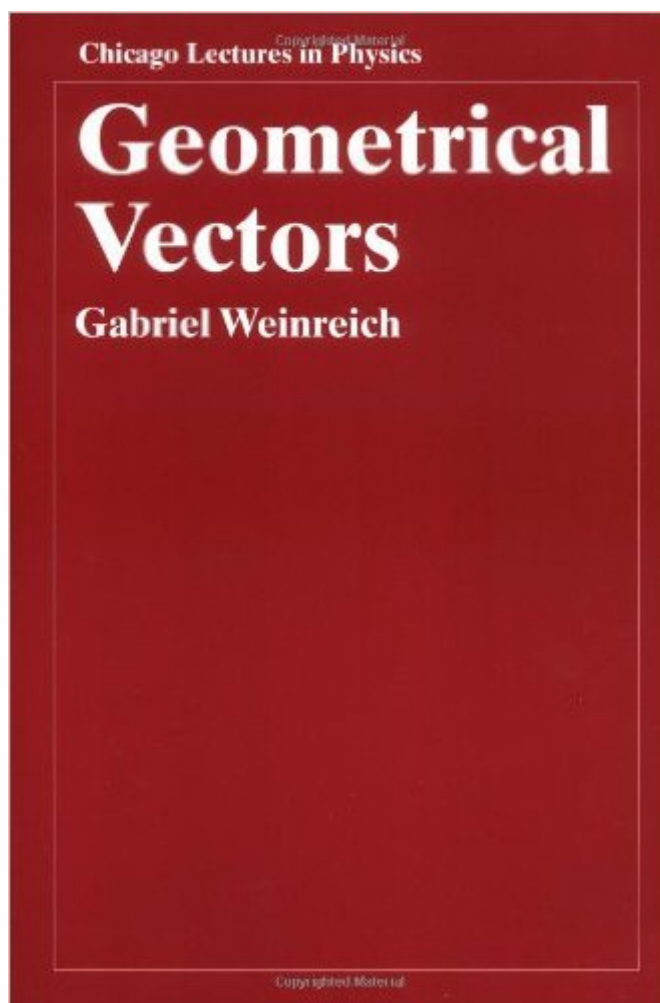


The book was found

Geometrical Vectors (Chicago Lectures In Physics)



Synopsis

Every advanced undergraduate and graduate student of physics must master the concepts of vectors and vector analysis. Yet most books cover this topic by merely repeating the introductory-level treatment based on a limited algebraic or analytic view of the subject. Geometrical Vectors introduces a more sophisticated approach, which not only brings together many loose ends of the traditional treatment, but also leads directly into the practical use of vectors in general curvilinear coordinates by carefully separating those relationships which are topologically invariant from those which are not. Based on the essentially geometric nature of the subject, this approach builds consistently on students' prior knowledge and geometrical intuition. Written in an informal and personal style, Geometrical Vectors provides a handy guide for any student of vector analysis. Clear, carefully constructed line drawings illustrate key points in the text, and problem sets as well as physical examples are provided.

Book Information

Series: Chicago Lectures in Physics

Paperback: 126 pages

Publisher: University of Chicago Press; 1 edition (July 6, 1998)

Language: English

ISBN-10: 0226890481

ISBN-13: 978-0226890487

Product Dimensions: 6 x 0.4 x 9 inches

Shipping Weight: 7.2 ounces (View shipping rates and policies)

Average Customer Review: 4.4 out of 5 stars [See all reviews](#) (19 customer reviews)

Best Sellers Rank: #699,426 in Books (See Top 100 in Books) #57 in [Books > Science & Math > Mathematics > Applied > Vector Analysis](#) #461 in [Books > Science & Math > Physics > Mathematical Physics](#) #1916 in [Books > Textbooks > Science & Mathematics > Physics](#)

Customer Reviews

The concept of a field got its first geometrical incarnation thanks to Michael Faraday's line drawings. Since, its treatment and interpretations have been progressively analytical as the sophistication of physical description has necessitated its abstraction. Gabriel Weinreich has convinced me through his wonderful little monograph that there is more than meets the eye if one cared to look and extend geometrical reasoning to those vector concepts that can be understood by our everyday intuition. The primary strength of his method, at least initially, lies in a description of vector

relationships in rubbery space. The *raison d'être* is twofold, as the author points out quite early. One appeals to the pedagogical advantage of exploiting the capacity of our brain to extrapolate 3D data from what is essentially a 2D image on the retina (in conjunction with the stereoscopic nature of vision, of course), and hence lending itself to think in topologically invariant terms. The other leaves the forms of relationships invariant in this rubber space geometry, which potentially saves some nightmare calculations from their tedium. Weinreich hints, however, that this formulation might not represent 'interesting' physical laws, but that there is a lot to be gained from this perspective. Like a well-told story, what exactly is gained emerges with an elegant lucidity only toward the end of the book, where he motivates the definition of the metric through topological reasoning. He does this by first demonstrating the problems faced when representing physical laws, like Maxwell's equations, using his invariant formulation, then introduces a coordinate representation that is necessitated by the need for this metric.

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

Geometrical Vectors (Chicago Lectures in Physics) Iso 1101:2012, Geometrical product specifications (Gps) - Geometrical tolerancing - Tolerances of form, orientation, location and run-out Feynman Lectures Simplified 4A: Math for Physicists (Everyone's Guide to the Feynman Lectures on Physics Book 12) Geometrical Methods of Mathematical Physics The Solid State: An Introduction to the Physics of Crystals for Students of Physics, Materials Science, and Engineering (Oxford Physics Series) Lectures on Antitrust Economics (Cairolì Lectures) The Birth of Biopolitics: Lectures at the Collège de France, 1978-1979 (Lectures at the Collège de France) The Government of Self and Others: Lectures at the Collège de France, 1982-1983 (Lectures at the Collège de France) Lectures on the Will to Know (Michel Foucault, Lectures at the Collège de France) Security, Territory, Population: Lectures at the Collège de France, 1977 - 78 (Michel Foucault, Lectures at the Collège de France) The City in a Garden: A History of Chicago's Parks, Second Edition (Center for American Places - Center Books on Chicago and Environs) Streetwise Chicago CTA & Metra Map - Laminated Chicago Metro Map - Folding pocket size map for travel De Los Maras a Los Zetas. De Colombia a Chicago: Los Secretos Del Narcotráfico De Colombia a Chicago (Best Seller (DeBolsillo)) (Spanish Edition) The Chicago Guide to Grammar, Usage, and Punctuation (Chicago Guides to Writing, Editing, and Publishing) Handbook of Optics, Third Edition Volume I: Geometrical and Physical Optics, Polarized Light, Components and Instruments(set) ISO 8015:2011, Geometrical product specifications (GPS) - Fundamentals - Concepts, principles and rules Structural Geology: An Introduction to Geometrical Techniques 4th (fourth) Edition by Ragan, Donal M. published by Cambridge University Press (2009) Geometrical Researches on the Theory

of Parallels Field Guide to Geometrical Optics (SPIE Vol. FG01) Vectors, Tensors and the Basic
Equations of Fluid Mechanics (Dover Books on Mathematics)

[Dmca](#)