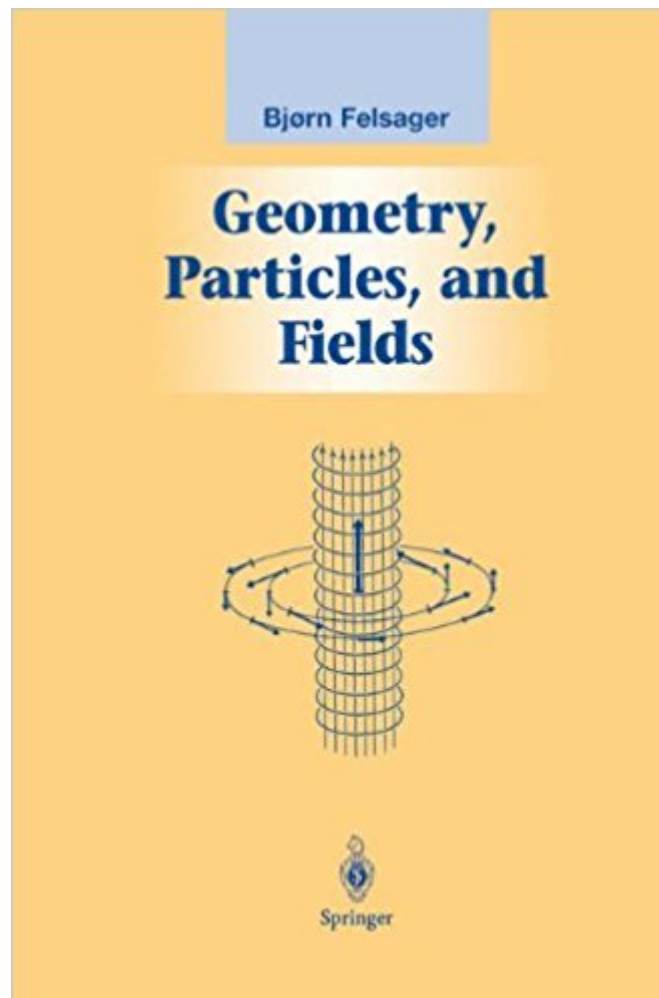




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Geometry, Particles, And Fields (Graduate Texts In Contemporary Physics)



Synopsis

Geometry, Particles and Fields is a direct reprint of the first edition. From a review of the first edition: "The present volume is a welcome edition to the growing number of books that develop geometrical language and use it to describe new developments in particle physics...It provides clear treatment that is accessible to graduate students with a knowledge of advanced calculus and of classical physics...The second half of the book deals with the principles of differential geometry and its applications, with a mathematical machinery of very wide range. Here clear line drawings and illustrations supplement the multitude of mathematical definitions. This section, in its clarity and pedagogy, is reminiscent of Gravitation by Charles Misner, Kip Thorne and John Wheeler...Felsager gives a very clear presentation of the use of geometric methods in particle physics...For those who have resisted learning this new language, his book provides a very good introduction as well as physical motivation. The inclusion of numerous exercises, worked out, renders the book useful for independent study also. I hope this book will be followed by others from authors with equal flair to provide a readable excursion into the next step." PHYSICS TODAY Bjoern Felsager is a high school teacher in Copenhagen. Educated at the Niels Bohr Institute, he has taught at the Universities of Copenhagen and Odense.

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• PHYSICS TODAY "The present volume is a welcome edition to the growing number of books that develop geometrical language and use it to describe new developments in particle physics ... It provides clear treatment that is accessible to graduate students with a knowledge of advanced calculus and of classical physics.... The second half of the book deals with the principles of differential geometry and its applications, with a mathematical machinery of very wide range. Here clear line drawings and illustrations supplement the multitude of mathematical definitions. This section, in its clarity and pedagogy, is reminiscent of Gravitation by Charles Misner, Kip Thorne and John Wheeler.... Felsager gives a very clear presentation of the use of geometric methods in particle physics.... For those who have resisted learning this new language, his book provides a very good introduction as well as physical motivation. The inclusion of numerous exercises, worked out, renders the book useful for independent study also. I hope this book will be followed by others from authors with equal flair to provide a readable excursion into the next step."

This book was originally published in Denmark in a typewritten form. It gives a very clear treatment of many aspects of modern theoretical physics on the advanced undergraduate or graduate level. Electromagnetism, gauge theories, path-integrals, differential geometry, and other central topics are treated with a minimum of unnecessary abstraction and a lot of examples and applications.

This text is extremely clear and direct. It offers a simple and expedient introduction to advanced topics with little prerequisites. Anyone with rudimentary knowledge of classical and quantum mechanics can follow the author's presentation with great ease. The organization of the text is completely appropriate and the exercises are totally relevant. The only advisement is to constantly remind oneself that the text is only on the topic of classical fields to the exclusion of any sections explicitly on quantum theory.

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