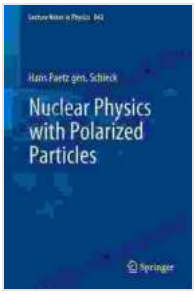
Nuclear Physics With Polarized Particles: Lecture Notes in Physics 842

Nuclear physics is the study of the structure and properties of atomic nuclei. Polarized particles are nuclei that have a net spin, and they have been used as a powerful tool to probe the structure of nuclei for over 50 years.



Nuclear Physics with Polarized Particles (Lecture Notes in Physics Book 842) by Hans Paetz gen. Schieck

4.5 out of 5

Language	: English
File size	: 8286 KB
Text-to-Speech	: Enabled
Enhanced typesetting	: Enabled
Print length	: 198 pages
Screen Reader	: Supported

This book provides a comprehensive overview of the field of nuclear physics with polarized particles. It covers a wide range of topics, from the basic concepts of polarization to the latest experimental and theoretical developments. The book is written by a team of leading experts in the field and is suitable for both graduate students and researchers.

Basic Concepts of Polarization

The first chapter of the book introduces the basic concepts of polarization. It explains what polarization is, how it is created, and how it can be

measured. The chapter also discusses the different types of polarization, such as linear polarization, circular polarization, and tensor polarization.

Polarized Nucleon-Nucleon Interactions

The second chapter of the book discusses polarized nucleon-nucleon interactions. Nucleons are the building blocks of nuclei, and they interact with each other through the strong nuclear force. The strong nuclear force is a very complex force, and it is not fully understood. However, by studying polarized nucleon-nucleon interactions, we can learn more about the structure of the strong nuclear force.

Polarized Few-Nucleon Systems

The third chapter of the book discusses polarized few-nucleon systems. Few-nucleon systems are nuclei that contain only a few nucleons. These systems are much simpler than larger nuclei, and they can be used to study the basic properties of the strong nuclear force.

Polarized Nuclear Reactions

The fourth chapter of the book discusses polarized nuclear reactions. Nuclear reactions are interactions between nuclei that result in the formation of new nuclei. Polarized nuclear reactions can be used to study the structure of nuclei and the dynamics of nuclear reactions.

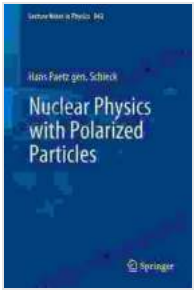
Polarized Nuclear Astrophysics

The fifth chapter of the book discusses polarized nuclear astrophysics. Nuclear astrophysics is the study of the role of nuclear physics in astrophysics. Polarized nuclei can be used to probe the conditions in stars and other astrophysical objects.

Polarized Particle Physics

The sixth chapter of the book discusses polarized particle physics. Particle physics is the study of the fundamental particles that make up matter. Polarized particles can be used to probe the properties of these particles and to search for new physics.

This book provides a comprehensive overview of the field of nuclear physics with polarized particles. It covers a wide range of topics, from the basic concepts of polarization to the latest experimental and theoretical developments. The book is written by a team of leading experts in the field and is suitable for both graduate students and researchers.



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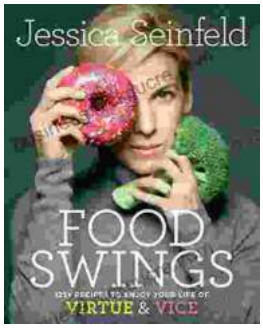

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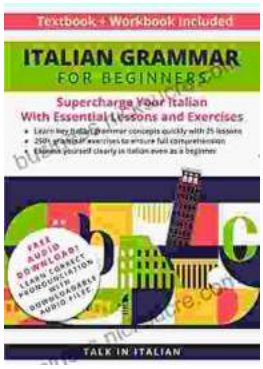

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