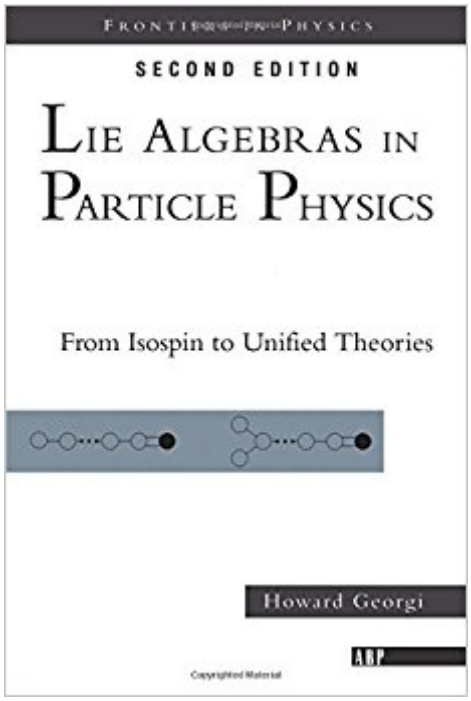
Lie Algebras In Particle Physics: From Isospin To Unified Theories (Frontiers In Physics)



Synopsis

Howard Georgi is the co-inventor (with Sheldon Glashow) of the SU(5) theory. This extensively revised and updated edition of his classic text makes the theory of Lie groups accessible to graduate students, while offering a perspective on the way in which knowledge of such groups can provide an insight into the development of unified theories of strong, weak, and electromagnetic interactions.

Book Information

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Customer Reviews

Howard Georgi is professor of physics at Harvard University.

I had a copy of this book in graduate school, on loan from our library. I found it to be a good introduction to Lie Algebra in general and its application to describing the spectrum of mesons and hadrons found in particle physics. I was glad to find it on line and it was one of the first books I purchased for my personal library as a physicist.

If I wasn’t reading this side by side with a professor, many parts of it would have been baffling. There are two areas especially where something is presented as though proven but isn’t actually proven. I would recommend this only if you have a professor to consult, if you don’t intend to read every proof line-by-line, or if you are using it for review

great introduction for students and researchers alike.

I really like this book, He explained very well Lie group and Lie algebra with applications in particle physics. Properties of SU(N) are shown very well in this book.

+Easy to read.+Gives many explicit examples.-Sometimes it is hard to comprehend the meaning of a single sentence!-> Good introduction for students with basic knowledge of Quantum Mechanics.

A nice book that lacks a common theme. Georgi was one of the first who wrote down a Grand Unified Theory, so he knows quite some group theory and why it is important in physics. Nevertheless, this vast knowledge does not transfer directly to great didactical explanations. The book seems to me as piecemeal. Some chapters were quite nice, others seemed really irrelevant and I didn't understand why they are there. Nowadays there are several books that offer better explanations of these topics, but Georgi's book will of course remain a classic and some chapters are still useful. As lang as one does not expect a book that is read from cover to cover I can recommend this book

I know Lie Algebras from the mathematical side. I expected the author to give a physical argument of why it was applicable to elementary particles. He tries sort of, but mostly bluffs his way through the math and uses symbols of his own without defining them. I gave it two stars because nevertheless I was able to glean some little bits of insight from the book, but unfortunately not much.

The Dover booksÃ Â Semi-Simple Lie Algebras and Their Representations (Dover Books on Mathematics)Ã Â andÃ Â Lie Groups, Lie Algebras, and Some of Their ApplicationsÃ Â cover the topic, but maybe not as well and the leave out a good coverage ofangles in groups and Young's combinatorial tableaux.The relationship of Dynkin diagrams to SU(n) (A_n) and SO(n) (D_n and B_n) groups is well covered. I liked the coverage of generalized Gell -Manngroups as well. The explanation of the relationship of SU(3) to SU(6) was also helpful. In general except for the price this is one of the better books on the market on this subject.

Theory of Operator Algebras I (Operator Algebras and Non-Commulative Geometry V) Gauge Theories in Particle Physics, Vol. 2: Non-Abelian Gauge Theories: QCD and the Electroweak Theory (Volume 1) Gauge Theories in Particle Physics, Second Edition (Graduate Student Series in Physics) Finite Element Methods for Particle Transport: Applications to Reactor and Radiation Physics (Research Studies in Particle and Nuclear Technology) Lie Algebras (Dover Books on Mathematics) Introduction to Lie Algebras and Representation Theory (Graduate Texts in Mathematics) (v. 9) Quarks: Frontiers In Elementary Particle Physics Gauge Theories in Particle Physics: A Practical Introduction, Fourth Edition - 2 Volume set Quantum Electrodynamics: Gribov Lectures on Theoretical Physics (Cambridge Monographs on Particle Physics, Nuclear Physics and Cosmology) Spin and Isospin in Nuclear Interactions Frontiers in Health Policy Research: Volume 7 (NBER Frontiers in Health Policy) Quaternions, Clifford Algebras and Relativistic Physics Statistical Methods for Data Analysis in Particle Physics (Lecture Notes in Physics) Particle Accelerator Physics (Graduate Texts in Physics) From Special Relativity to Feynman Diagrams: A Course in Theoretical Particle Physics for Beginners (UNITEXT for Physics) EinsteinÃ¢â ¬â„¢s Dice and SchrÃƒÂ¶dingerÃ¢â ¬â„¢s Cat: How Two Great Minds Battled Quantum Randomness to Create a Unified Theory of Physics The Physics Of Laser Plasma Interactions (Frontiers in Physics) Five Nights at Freddy’s - The Theories Collection: Learn all of the secrets of Freddy Fazbear’s Pizza, with dozens of theories and notes from FNAF experts!