

<<费恩曼图>>

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内容概要

this book provides an easily accessible introduction to quantum field theory via feynman rules and calculations in particle physics. the aim is to make clear what the physical foundations of present day field theory are , to clarify the physical content of feynman rules , and to outline their domain of applicability. the book begins with a brief review of some aspects of einsteins theory of relativity that are of particular importance for field theory , before going on to consider the relativistic quantum mechan-ics of free particles , interacting fields , and particles with spin. the techniques learnt in these chapters are then demonstrated in examples that might be encountered in real accelerator physics. further chapters contain discussions on renormalization , massive and massless vector fields and unitarity. a final chapter presents concluding arguments concerning quantum electrodynamics. the book includes valuable appendices that review some essential mathematics , including complex spaces , matrices , the cbh equa-tion , traces and dimensional regularization. an appendix contain-ing a comprehensive summary of the rules and conventions used is followed by an appendix specifying the full langranian of the standard model and the corresponding feynman rules. to make the book useful for a wide audience a final appendix provides a discussion on the metric used , and an easy-to-use dictionary con-necting equations written with a different metric. written as a textbook , many diagrams and examples are included.

this book will be used by beginning graduate students taking courses in particle physics or quantum field theory , as well as by researchers as a source and reference book on feynman diagrams and rules.

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