

1. Record Nr.	UNISALENT0991003598659707536
Autore	Schwartz, Matthew Dean
Titolo	Quantum field theory and the standard model / Matthew D. Schwartz
ISBN	9781107034730 (hardback)
Descrizione fisica	xviii, 850 pages : illustrations ; 26 cm
Classificazione	LC QC174.45
Disciplina	530.14/3
Soggetti	Quantum field theory - Textbooks Particles (Nuclear physics) - Textbooks
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references (pages 834-841) and index
Nota di contenuto	Machine generated contents note: Part I. Field Theory: 1. Microscopic theory of radiation; 2. Lorentz invariance and second quantization; 3. Classical Field Theory; 4. Old-fashioned perturbation theory; 5. Cross sections and decay rates; 6. The S-matrix and time-ordered products; 7. Feynman rules; Part II. Quantum Electrodynamics: 8. Spin 1 and gauge invariance; 9. Scalar QED; 10. Spinors; 11. Spinor solutions and CPT; 12. Spin and statistics; 13. Quantum electrodynamics; 14. Path integrals; Part III. Renormalization: 15. The Casimir effect; 16. Vacuum polarization; 17. The anomalous magnetic moment; 18. Mass renormalization; 19. Renormalized perturbation theory; 20. Infrared divergences; 21. Renormalizability; 22. Non-renormalizable theories; 23. The renormalization group; 24. Implications of Unitarity; Part IV. The Standard Model: 25. Yang-Mills theory; 26. Quantum Yang-Mills theory; 27. Gluon scattering and the spinor-helicity formalism; 28. Spontaneous symmetry breaking; 29. Weak interactions; 30. Anomalies; 31. Precision tests of the standard model; 32. QCD and the parton model; Part V. Advanced Topics: 33. Effective actions and Schwinger proper time; 34. Background fields; 35. Heavy-quark physics; 36. Jets and effective field theory; Appendices; References; Index.

2. Record Nr.	UNINA9910254041203321
Titolo	Basic Physics of Functionalized Graphite // edited by Pablo D. Esquinazi
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2016
ISBN	3-319-39355-3
Edizione	[1st ed. 2016.]
Descrizione fisica	1 online resource (XV, 185 p. 98 illus., 40 illus. in color.)
Collana	Springer Series in Materials Science, , 0933-033X ; ; 244
Disciplina	553.26
Soggetti	Materials science Solid state physics Optical materials Electronics - Materials Materials—Surfaces Thin films Characterization and Evaluation of Materials Solid State Physics Optical and Electronic Materials Surfaces and Interfaces, Thin Films
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	From the Contents: Introduction -- From Graphene to Multilayer Graphene: Basic Properties and the Importance of Defects -- Quantum Oscillations in Quasi-2D Systems: From Graphene to Graphite.
Sommario/riassunto	This book summarizes the basic physics of graphite and newly discovered phenomena in this material. The book contains the knowledge needed to understand novel properties of functionalized graphite demonstrating the occurrence of remarkable phenomena in disordered graphite and graphite-based heterostructures. It also discusses applications of thin graphitic samples in future electronics. Graphite consists of a stack of nearly decoupled two-dimensional graphene planes. Because of the low dimensionality and the presence of Dirac fermions, much of graphite physics resembles that of

graphene. On the other hand, the multi-layered nature of the graphite structure together with structural and/or chemical disorder are responsible for phenomena that are not observed yet in graphene, such as ferromagnetic order and superconductivity. Each chapter was written by one or more experts in the field whose contributions were relevant in the (re)discovery of (un)known phenomena in graphite. The book is intended as reference for beginners and experts in the field, introducing them to many aspects of the new physics of graphite, with a fresh overview of recently found phenomena and the theoretical frames to understand them.

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