

1. Record Nr.	UNISA996418437803316
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Titolo	Particle physics reference library : volume 1: theory and experiments / / edited by Herwig Schopper
Pubbl/distr/stampa	Springer Nature, 2020 Cham, Sitzerland : , : Springer Nature Switzerland AG : , : Imprint : SpringerOpen, , [2020] ©2020
ISBN	3-030-38207-9
Descrizione fisica	1 online resource (IX, 630 pages) : illustrations; digital, PDF file(s)
Disciplina	539.72
Soggetti	Elementary particles (Physics) Quantum field theory Nuclear physics Heavy ions Particle acceleration String theory Physical measurements Measurement Elementary Particles, Quantum Field Theory Nuclear Physics, Heavy Ions, Hadrons Particle Acceleration and Detection, Beam Physics Quantum Field Theories, String Theory Measurement Science and Instrumentation
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Introduction -- Gauge Theories and the Standard Model -- The Standard Model of Electroweak Interactions -- QCD: The Theory of Strong Interactions -- QCD on the lattice -- The Discovery of the Higgs boson at the LHC -- Relativistic Nucleus-Nucleus Collisions and the QCD Matter Phase Diagram -- Beyond the Standard Model -- Symmetry Violations and Quark Flavour -- The Future of Particle Physics – the LHC and Beyond.

Sommario/riassunto

This first open access volume of the handbook series contains articles on the standard model of particle physics, both from the theoretical and experimental perspective. It also covers related topics, such as heavy-ion physics, neutrino physics and searches for new physics beyond the standard model. A joint CERN-Springer initiative, the “Particle Physics Reference Library” provides revised and updated contributions based on previously published material in the well-known Landolt-Boernstein series on particle physics, accelerators and detectors (volumes 21A,B1,B2,C), which took stock of the field approximately one decade ago. Central to this new initiative is publication under full open access.
