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Autore	Gattringer C (Christof)
Titolo	Quantum chromodynamics on the lattice [[electronic resource]] : an introductory presentation / / C. Gattringer, C.B. Lang
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Descrizione fisica	1 online resource (XV, 343 p. 34 illus.)
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Altri autori (Persone)	LangC. B <1948-> (Christian B.)
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	The path integral on the lattice -- The path integral on the lattice -- QCD on the lattice — a first look -- QCD on the lattice — a first look -- Pure gauge theory on the lattice -- Pure gauge theory on the lattice -- Numerical simulation of pure gauge theory -- Numerical simulation of pure gauge theory -- Fermions on the lattice -- Fermions on the lattice -- Hadron spectroscopy -- Hadron spectroscopy -- Chiral symmetry on the lattice -- Chiral symmetry on the lattice -- Dynamical fermions -- Dynamical fermions -- Symanzik improvement and RG actions -- Symanzik improvement and RG actions -- More about lattice fermions -- More about lattice fermions -- Hadron structure -- Hadron structure -- Temperature and chemical potential -- Temperature and chemical potential.
Sommario/riassunto	The lattice formulation is at present the most successful approach to Quantum Chromodynamics - the theory of quarks and gluons. This book is intended for newcomers to the field and presents a clear and easy-to-follow path from the first principles all the way to actual calculations. It focusses on QCD and discusses mainly SU(3) lattice gauge theory, both with and without fermions. Numerical calculations

in lattice field theory have now become the most effective approach for obtaining quantitative results, and thus three chapters include sections describing numerical techniques, as used in pure gauge theory, in quenched spectroscopy and in treating dynamical fermions.