Phases Of Quantum Chromodynamics

Reference for graduate students, covering the physical phases of quantum chromodynamics (QCD).This book discusses the physical phases of quantum chromodynamics (QCD) in ordinary environments, as well as in extreme environments of high temperatures and high baryon number. Under such extreme conditions, new phases are thought to exist: the quark-gluon plasma and colour superconductivity. After introducing lattice-gauge theory, beginning with fundamentals and reaching important developments, this book emphasises the application of QCD to the study of matter in extreme environments through a host of methods, including lattice-gauge theory, lower dimensional model field theories and effective Lagrangians. Suitable for graduate students and researchers entering the field of lattice-gauge theory, heavy ion collisions, nuclear theory or high energy phenomenology, as well as astrophysicists interested in the phases of nuclear matter and its impact on ideas of the interiors of dense stars. It is suitable for use as a textbook on lattice-gauge theory, effective Lagrangians and field theoretic modelling for nonperturbative phenomena in QCD. EAN/ISBN : 9780511057380 Publisher(s): Cambridge University Press Format: ePub/PDF Author(s): Kogut, John B. - Stephanov, Mikhail A.

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