

1. Record Nr.	UNINA9910454083903321
Titolo	From quarks and gluons to quantum gravity [[electronic resource]] : proceedings of the International School of Subnuclear Physics // edited by Antonino Zichichi
Pubbl/distr/stampa	River Edge, NJ, : World Scientific, c2003
ISBN	1-281-95604-X 9786611956042 981-279-665-7
Descrizione fisica	1 online resource (449 p.)
Collana	The subnuclear series ; ; v. 40
Altri autori (Persone)	ZichichiAntonino
Disciplina	530.14/3 530.143 539.7
Soggetti	Quantum gravity Gluons Quarks Gauge fields (Physics) Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	CONTENTS ; Mini-Courses on Basics ; Lattice Field Theory and SU(N) Gauge Theories ; 1 Introduction ; 2 Lattice calculations ; 3 The physics of SU(N) gauge theories ; 4 Some final remarks ; References ; CHAIRMAN: M. TEPER ; Symmetries and Quasi-Particles in Hot QCD ; 1 Introduction 2 Qualitative picture of the transition 3 Global symmetries order parameters and the phase transition in QCD ; 4 Canonical Z(N) symmetries in SU(N) gauge theory ; 5 Forces and screening in the plasma ; 6 A quantitative method: perturbation theory and dimensional reduction 7 Dimensional reduction at work 8 Flux of quasi-particles as seen by spatial Wilson and 't Hooft loops

; 9 Epilogue ; 10 Suggestions for further reading
 ; References ; CHAIRMAN: C.P. KORTHALS ALTES
 ; Physics of QCD Instantons ; 1 Introduction
 ; 2 Instantons and chiral symmetries
 3 What instantons can do: a brief summary
 4 Two-point correlation functions: T decays
 ; 5 Three-point correlators: the pion form-factor
 ; 6 Instantons at large N_c ; 7 The RHIC puzzles
 ; 8 Quantum mechanics of the glue in vacuum and high energy
 collisions ; 9
 Acknowledgments
 CHAIRMAN: E. SHURYAK Confinement and Duality
 ; 1 Confinement: an overview ; 2 Confinement of
 Magnetic Flux ; 3 Duality Sources and Fluxes
 ; 4 Duality and Confinement ; References
 ; CHAIRMAN: M. STRASSLER
 Probing Grand Unification Through Neutrino Oscillations Leptogenesis
 and Proton Decay

Sommario/riassunto

In August/September 2002, a group of 78 physicists from 50
 laboratories in 17 countries met in Erice, Italy, to participate in the 40th
 Course of the International School of Subnuclear Physics. The purpose
 of the School was to focus attention on the theoretical and
 phenomenological developments in gauge theories, as well as in all the
 other sectors of subnuclear physics. Experimental highlights from the
 most relevant sources of new data were presented and discussed,
 including the latest news on theoretical developments in quantizing the
 gravitational forces. This volume constitutes the procee
