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| Descrizione fisica | 1 online resource (236 p.) |
| Altri autori (Persone) | HuituKatri |
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| Soggetti | Pomerons Quantum chromodynamics Perturbation (Quantum dynamics) Large Hadron Collider (France and Switzerland) |
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| Nota di contenuto | CONTENTS; Preface; Diffraction of Hadrons at High Energies; 1 Introduction; 2 Glueballs and the Pomeron in QCD; 3 Diffractive production processes; 4 High-energy hadronic interactions; 5 Small-x physics; 6 Acknowledgments; References; Pomeron Physics: An Update 1. Introduction 2. Total cross sections; 3. Elastic scattering; 4. Controversy: how large is the screening?; 5. Dips; 6. Diffraction dissociation; 7. Controversy: how many pomerons?; 8. Key question: is the hard pomeron present at Q ² = 0?; 9. Hard diffraction; 10. Diffractive Higgs production 11. Perturbative evolution 12. The main issues; References; A Re- Examination of Gribov's Theorem and the Problem of the Saturation of the Froissart Bound; 1 Introduction; 2 A Candidate for Violating Gribov's Theorem; 3 Conclusions; References Diffraction Scattering at High Energies (Outlook from 1980's) 1 Introduction; 2 Direct measurement of the total cross sections; 3 Small Angle Scattering. Experimental Methods; 4 Tests of Forward Dispersion Relations |

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| | 5 Extrapolation of Total Cross Sections beyond the Accelerator Energies 6 Universal Shrinkage of Diffraction Cones; 7 Conclusion; References Pomeron before and after QCD; Abstract; 1 Regge kinematics ; 2 Reggeons and Pomeron; 3 Parton model; 4 Gluon and quark reggeization 5 The reggeon dynamics in multi-colour QCD |
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| Sommario/riassunto | Recently there has been much interest in studying events with tagged forward protons at the existing and forthcoming hadronic colliders, the Tevatron and the LHC. These studies not only allow one to monitor the luminosity of the colliding protons with high accuracy but also provide new ways of investigating the subtle issues of QCD dynamics and searches for the manifestations of new physics. This book reviews the state of the art of forward physics measurements and the theoretical development. It will catalyze many new approaches within the framework of the extensive physics programme of the |