This volume describes the Pomeron, an object of crucial importance in very high energy particle physics.

The book starts with a general description of the Pomeron within the framework of Regge theory. The emergence of the Pomeron within scalar field theory is discussed next, providing a natural foundation on which to develop the more realistic case of QCD. The reggeization of the gluon is demonstrated and used to build the Pomeron of perturbative QCD. The dynamical nature of the Pomeron is then investigated. The role of the Pomeron in small-x deep inelastic scattering and in diffractive scattering is also examined in detail. The volume concludes with a study of the colour dipole approach to high energy scattering and the explicit role of unitarity corrections.

This book will be of interest to theoretical and experimental particle physicists, and applied mathematicians.

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Quantum Chromodynamics and the Pomeron

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Shaftesbury Road, Cambridge CB2 8EA, United Kingdom

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www.cambridge.org
Information on this title: www.cambridge.org/9781009290104

DOI: 10.1017/9781009290111

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When citing this work, please include a reference to the DOI 10.1017/9781009290111

First published 1998
Reissued as OA 2022

A catalogue record for this publication is available from the British Library.

ISBN 978-1-009-29010-4 Hardback
ISBN 978-1-009-29012-8 Paperback

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