This book presents a thorough and detailed description of the very successful Lund model of the dynamics of particle physics. The Lund model, inspired by quantum chromodynamics, has provided a very promising and pictorial approach to the dynamics of quark and gluon interactions. Starting with a brief reprise of basic concepts in relativity, the quantum mechanics of fields and particle physics, this book goes on to discuss the dynamics of the massless relativistic string, confinement, causality and relativistic covariance, Lund fragmentation processes, QED and QCD bremsstrahlung, multiplicities and particle-parton distributions. The book also explores the relationships between the Lund model and other models based on field theory (the Schwinger model, S-matrix models, lightcone algebra physics and variations of the parton model) or on statistical mechanics (the Feynman-Wilson gas, scaling, iterative cascade models).

The book will be of interest to experimental and theoretical particle physicists, and also to those working in other branches of physics who would like to develop a feel for these basic interactions.

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THE LUND MODEL

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The Lund Model

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But even if I have been endowed with the best advisers, with regard to any remaining errors and omissions the buck rests with me!