



Sudakov resummation in QCD

By Bolzoni, Paolo

Condition: New. Publisher/Verlag: LAP Lambert Academic Publishing | Quantum Chromodynamics and the resummation of multiparton soft gluon emissions | In this work, the resummation of large logarithms in the perturbative expansion due to soft and collinear multiparton emissions in quantum chromodynamics (QCD) is pedagogically introduced and developed with particular attention to the renormalization group approach. In this framework also in the case of more intricate two-scale kinematics in the soft limit, resummation simply follows from general kinematic properties of the phase space. This approach does not require any additional constraint on the cross section which are stronger than the standard QCD factorization. Consequently it turns out to be more general, rigorous and flexible even if less predictive. Resummation formulae to all logarithmic accuracy for the Deep-inelastic scattering, the Drell-Yan process and the prompt photon production are derived also for rapidity and transverse momentum distributions. This work is suitable to all researcher and graduate students who are interested to be introduced or to know more about the foundations of soft gluon resummation in QCD. | Format: Paperback | Language/Sprache: english | 156 pp.



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