

Quantum Chromo Dynamics 1

Monday 7 August 2023 10:30 (45 minutes)

Abstract:

Quantum Chromodynamics is the part of the Standard Model that describes the strong interactions between quarks and gluons, which bind to protons, neutrons, etc. The lectures will cover several aspects of this theory, with a focus on phenomena and methods relevant to collider physics. Where needed, some background from quantum field theory will be provided.

Topics covered:

- perturbation theory, running coupling and scale dependence
- QCD in electron-positron annihilation, hadronic jets
- from the parton model to the concept of factorisation
- QCD in Monte Carlo event generators
- parton distribution functions

Presenter: DIEHL, Markus (DESY)

Track Classification: HEP: High Energy and Particle Physics Lectures