

Introduction to QCD

2. Exercise

Exercise 1: Feynman Rules

Derive the Feynman rules for the gluon propagator, the 3-gluon vertex as well as the quark-gluon-vertex.

Exercise 2: Charge Quantisation

Show that in QED the electric charges are not quantized, i.e. different fields can couple with different coupling constants to the vector potential. Why is this not possible for non-Abelian gauge theories?