Physics of the Standard Model

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Course Description:
The course covers basics of gauge theories, QED, Yang-Mills theories, QCD phenomenology, Electroweak interactions and Higgs mechanism, Renormalization of the SM, finite width effects and the running of couplings. The drawbacks of the Standard Model will be discussed in detail. Collider phenomenological aspects, spin physics, phase space and kinematics will be discussed as well.

Prerequisites:
Recommended are basic knowledge from the courses ‘Quantenmechanik, Kern- und Teilchenphysik, Quantum Field Theory I or Advanced Particle Physics’.

Date and Place:
Mon, 11:15 – 12:45, HS, Building 61, Bahrenfeld
Thu 8:30– 9:15, HS, Building 61, Bahrenfeld

Problem Classes: Thu, 9:15 – 10:00, HS, Building 61, Bahrenfeld

Starting on: 4 April, 2022