



Universität Hamburg

DER FORSCHUNG | DER LEHRE | DER BILDUNG

CHAMPP

CENTER IN HAMBURG FOR
ASTRO-, MATHEMATICAL AND
PARTICLE PHYSICS

LECTURE COURSE IN THE QUANTUM UNIVERSE RESEARCH SCHOOL

Summer Term 2023

Physics of the Standard Model

G. Moortgat-Pick

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: Tue, 9:00 – 10:30, SR 2, Building 2a, Bahrenfeld
Thu 9:00– 09.45, SR 2, Building 2a, Bahrenfeld

Problem Classes: Thu, 10:00 – 10:45, SR 2, Building 2a, Bahrenfeld

Starting on: 3 April, 2023
