



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

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Summer Term 2022

# 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'.

<b>Date and Place:</b>	Mon, 11:15 – 12:45, HS, Building 61, Bahrenfeld Thu 8:30– 9:15, HS, Building 61, Bahrenfeld
<b>Problem Classes:</b>	Thu, 9:15 – 10:00, HS, Building 61, Bahrenfeld
<b>Starting on:</b>	4 April, 2022

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