



Universität Hamburg

DER FORSCHUNG | DER LEHRE | DER BILDUNG

CHAMPP

CENTER IN HAMBURG
FOR ASTRO, MATHEMATICAL
AND PARTICLE PHYSICS

LECTURE COURSE IN THE CHAMPP GRADUATE SCHOOL

Winter Term 2018/2019

Accelerator Physics I

W. Hillert, B. Schmidt

Course Description:

Particle accelerators play an essential role in material research, high energy, hadron and nuclear physics, and are meanwhile indispensable tools serving various industrial and medical applications. In the course of related demanding challenges in accelerator operation and development, accelerator physics emerged as a stand-alone field of applied physics. The course will address this expanding and interesting research field on an introductory level.

Lecture contents: functional principle of different types of particle accelerators, layout and design of simple magneto-optic systems, radio frequency engineering and technology for particle accelerators, linear transverse and longitudinal beam dynamics.

The opportunity will be offered to exemplify and deepen the subject matter by detailed visits of the DESY accelerator complex and a 4 days scientific excursion (typ. in September) to European accelerator labs like GSI, PSI and CERN.

Prerequisites:

Knowledge in electrodynamics

Literature:

Will be discussed during the lecture.

Date and Place: Thu, 13:30 – 15:00, Hörsaal III, Jungiusstraße 9

Problem Classes: Thu, 15:15 – 16:45, Poolraum 3, Jungiusstraße 9
Starting on: 18 October 2018

Starting on: 18 October 2018
