



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 2022

Physics and Applications of Laser-Plasma-Accelerators

Florian Grüner

Course Description:

Topics:

- physics of free-electron lasers (FEL)
- deriving the theory of FELs
- FEL-instability
- physics of laser-plasma physics
- applications, e.g. laser-driven X-ray sources for medical imaging

Prerequisites:

Basic physics background, all relevant concept and theories will be derived in the lecture.

Literature:

Will be discussed at the beginning of the lecture.

Date and Place:

Mon 8:30–10:00, SemRm 3114, Bahrenfeld
Wed 8:30–10:00, SemRm 3114, Bahrenfeld

Problem Classes:

Wed, 10:15–11:45, SemRm 3114, Bahrenfeld

Starting on:

4 April 2022
