



GERMAN-ARMENIAN STUDENT COURSE ON ACCELERATOR PHYSICS

5-12 OCTOBER, 2024
CANDLE, YEREVAN

FOR MORE
INFO



am

<http://candle.am/german-armenian-school-2024/>
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An internship in advanced accelerator physics at the CANDLE institute in Armenia is offered with the support of PIER, DESY and the Hamburg global funding program. The internship is carried out in small mixed teams of German and Armenian students. It will replace one of the 4 experiments of the UHH Advanced Practicum in Physics (PHY-FP).

During a one-week stay each team will perform one out of 8 across a wide range of accelerator physics and technology experiments offered at the AREAL accelerator (CANDLE SRI). AREAL is an ultrafast laser-driven electron accelerator that produces extremely short relativistic electron pulses using high-frequency electric fields.

In addition to the acquired important skills, the students will experience the significance of international cooperation and personal contacts. The course is to be conducted in English and is expected to be held in October 2024.



COURSES

BEAM PHYSICS AND DIAGNOSTICS

Energy and energy spread
Beam phase space
Beam profile and charge



ULTRAFAST LASERS

IR and UV lasers
Laser pulse manipulation
Beam shaping and control



GENERATION OF ULTRASHORT RELATIVISTIC ELECTRON BEAMS

Photoelectric effect
High gradient acceleration
Significance of relativistic
kinematics



ACCELERATOR TECHNOLOGY

Ultrahigh vacuum
Beam-matter interactions
Magnets for accelerators



ELECTROMAGNETIC FIELDS

Cavities and waveguides
High-power electromagnetic
fields
RF measurements and control

