

GERMAN-ARMENIAN STUDENT COURSE ON

ACCELERATOR PHYSICS

🕒 **SEPTEMBER, 2023**

📍 **YEREVAN, ARMENIA**



An internship in advanced accelerator physics at the CANDLE Institute in Armenia is offered with the support of PIER, DESY, and the Hamburgglobal 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 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.

Students will perform experiments across a wide range of accelerator physics and techniques.

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 September, 2023.

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

Beam Physics and Diagnostics

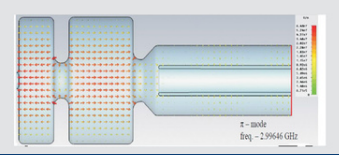
- Energy and energy spread
- Beam phase space
- Beam profile and charge

Accelerator technology

- Ultrahigh vacuum
- Beam-matter interactions
- Magnets for accelerators

Electromagnetic fields

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



For More Info

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