

Instrumentation & Accelerators

Since: 2018

Staff (2024):

- Program professor (PAP): Hermann Dürr
- Faculty members: Vitaliy Goryashko, Volker Ziemann (retired/HEP), Dragos Dancila (EE dept.)
- Ph.D. students: 8 (present: Martin Pavelka)
- Postdocs: 3 (present: -)
- Researchers (permanent): 7 (present: Maja Olvegård, Marek Jacewicz)
- Research engineers: 13 (present: Rocio Santiago Kern)



Research focus

Develop and operate new infrastructure for the strategic research areas in the department of physics and astronomy, perform research on new methods, instrumentation and accelerators.

Main Research Areas		% of program	FTE Faculty	Type
1	Accelerator research and development	50%	1.3	Mixed
2	R&D on accelerator-based photon sources from source to sample	25%	1	Mixed
3	Methods and Instrumentation	25%	1	Mixed

KoF24 report, Table 3.1

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Key enablers for research

- External funding for infrastructure development
 - Characterisation of superconducting accelerator components (ESS, MINERVA)
- Contribute to large-scale accelerator R&D
 - Deliver components for high-luminosity upgrade of LHC (CERN)
- Close links with material science programs
 - Central laser user facility, joint funding in experiment & theory (KAW, RÅC)
- Being able to attract excellent students and scientists
 - Cross disciplinary research environment



Program priorities

(KoF24 report summary, Chapters 8-10)

Prio 1 (program): Applied superconductivity research for accelerators

Strengthen the R&D program which provides core components of particle accelerators and medical equipment.

Prio 2 (department): Accelerator R & D towards future particle colliders

Strengthen existing activities towards future particle colliders together with the High Energy Physics program.

Prio 3 (faculty): Establish a Materials Instrumentation Platform

Provide competitive instrumentation and methods development in materials science

All priorities are central for Physics & Astronomy Department:

National laboratory for instrumentation and accelerator development

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