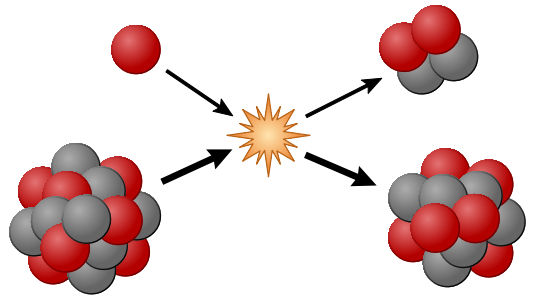
Applied Nuclear Physics



Staff (September 2024):

- Program professor (PAP): Stephan Pomp
- Faculty members: Peter Andersson, Marco Cecconello, Göran Ericsson, Jacob Eriksson, Sophie Grape, Cecilia Gustavsson, Ane Håkansson, Henrik Sjöstrand, Andreas Solders, Matthias Weiszflog (several only part-time; two upcoming retirements)
- Ph.D. students: 9 (present: Claudia Olaru)
- Postdocs: 3 (present: Vikram Rathore)
- Researchers (permanent): 11 (present: Anders Hjalmarsson)
- Research engineers: 1

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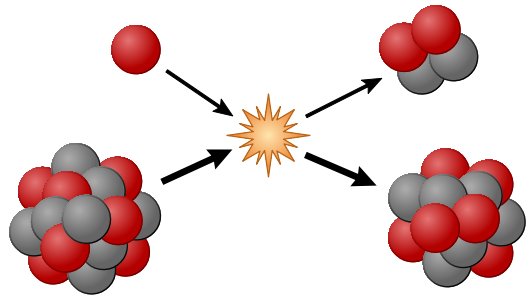
Research focus



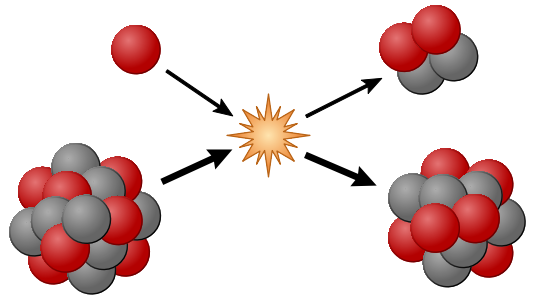
The program works in the field of nuclear science and aims at **bridging the gap** between **fundamental research and applications in nuclear technology**.

Our research ranges from, e.g., studies of nuclear fission and methods of nuclear data evaluation, to research in fusion, nuclear safeguards and disarmament.

Main Research Areas		% of program	FTE Faculty	Type
1	Nuclear reaction studies and nuclear data evaluation methodology	30%	2	Mixed
2	Fusion neutron diagnostics	25%	1.5	Mixed
3	Nuclear fuel cycle, safeguards and non-proliferation	30%	2	Applied
4	Technical aspects of nuclear disarmament	15%	1	Applied

* Spring 2024: Ion physics moved to Material Physics program

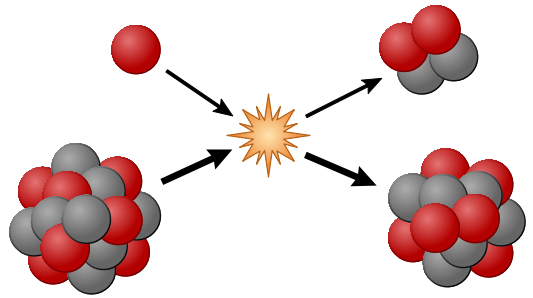
Key enablers for research



- Infrastructure - access to and development of
  - Local (NESSA, …), national (CLAB) and international facilities (ITER, IGISOL, GANIL, …)
  - Also: computing resources
- Funding - wide range of funding sources
  - Stable long term funding with flexibility to initiate and test new directions
  - Challenge: cover overhead and co-funding (EU projects)
- Collaborations – national and international
  - Collaboration with the Swedish nuclear sector: academia, industry and authority
  - International collaborations

Program priorities

(KoF24 report summary, Chapters 8-10)



Prio 1 (program): NESSA – NEutron Source in uppsSAla

Infrastructure to strengthen experimental activities and competence in neutron science and applications and support development of a platform for neutron research in Uppsala (HiCANS).

Prio 2 (department): Platform for neutron research [same as Material Physics]

Establish a complete concept of a compact neutron source in Uppsala to strengthen research in materials and applied nuclear physics and support ITER and the usage of the European Spallation Source.

Prio 3 (faculty): ANItA (Academic-industrial Nuclear technology Initiative to Achieve a sustainable energy future)

Firmly secure ANItA as a platform for research and development in nuclear technology at the faculty.

[→ UU strength area "Energy"] [one of the department priorities]