

Space and Plasma Physics

division of Astronomy and Space Physics

Staff (2024):

- Program professor (PAP): Yuri Khotyaintsev
- Faculty members: Ulrike Heiter (20%)
- Ph.D. students: 1 (present: Jordi Boldu)
- Postdocs: 0
- Researchers (permanent): 0
- Research engineers: 0



Space and Plasma Physics + RPF@IRF*



*Space Plasma Physics research program (RPF) at the Swedish Institute of Space Physics (IRF)

Staff (2024):

- Program professor (PAP): Yuri Khotyaintsev
- Faculty members: Ulrike Heiter (20%), Mats André (Prof. emeritus)
- Ph.D. students: 6 (present: Jordi Boldu)
- Postdocs: 7 (present: Moa Persson)
- Researchers (permanent): 12 (present: Emiliya Yordanova, Anders Eriksson, David Andrews, Erik Vigren)
- Research engineers: 13 (present: Vicki Cripps)



Research focus

Understanding plasma processes in space using in-situ measurements

Main Research Areas		% of program	FTE Faculty	Type
1	Kinetic plasma processes, incl. turbulence, magnetic reconnection, and shocks	40%	4,2*	Basic
2	Planetary ionospheres, Mars, Saturn, Venus, Earth	40%	5,9*	Basic
3	Cometary plasma physics	15%	1,8*	Basic
4	Space weather	5%	1*	Mixed

KoF24 report, Table 3.1. *Senior researchers at IRF.



Key enablers for research

- Unique space experiments in the solar system
 - Current: 4xMMS (Earth), 3xSwarm (Earth), Solar Orbiter (inner Heliosphere), JUICE (Jupiter), BepiColombo (Mercury)
 - Recently retired: 4xCluster (Earth), Rosetta (comet 67-P), Cassini (Saturn)
- Developing space instruments in house
 - Currently developing: Comet Interceptor (comet), LP3 (mini-Langmuir probe), ESWEP (Moon), M-MATISSE (Mars), Plasma Observatory (Earth)
- Broad international collaboration
- Being able to attract excellent students and postdocs
- Long-term funding by the Swedish National Space Agency and European Space Agency

