

Swedish Institute of Space Physics

Institutet för rymdfysik, IRF

- National research institute directly under the Ministry of Education
- Located in Kiruna, Umeå, Uppsala and Lund
- In Uppsala also Department of Astronomy and Space Physics of Uppsala University (teaching at all levels)
- Funded by Government, EU and Industry

IRF Uppsala

- Teaching programmes:
 - Undergraduate schools (science programme, master of engineering)
 - Graduate schools (gradU=doctors for Academia; AIM=doctors for industry)
- Research programmes:
 - Space plasma physics (studies space mainly with spacecraft instruments)
 - Physics in space (studies the fundamental physical laws of our space environment)

Physics in Space programme, PHISP

www.phisp.irfu.se

1. Use space as an extreme laboratory
2. Study fundamental physics in this laboratory
3. Develop new experimental methods based on fundamental physics
4. Design and build new instruments, particularly advanced radio facilities
5. Use high-performance computer clusters to model the electromagnetic environment
6. Develop commercial products

PHISP highlights

- Discovered new radio emissions from space 1981
- Software/digital radio since 1982
- Experiments at leading radio research facilities in Europe, USA/Puerto Rico and Russia since 1983
- Invented fundamentally new antenna techniques 1996
- Invited to collaborate with the world's first fully digital radio observatory LOFAR (Low Frequency Array, LOFAR; 10-240 MHz) in Europe 2000
- Created the LOIS (LOFAR in Scandinavia) project in Småland 2001
- Invited to build radio telescope on the Moon 2005