



## **Funding opportunities at the European Incoherent Scatter (EISCAT) radars**

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EISCAT currently operates 3 state of the art incoherent scatter radar systems. The facilities comprise of a UHF (Ultra High Frequency) and VHF (Very High Frequency) system located near Tromsø, Norway and a UHF system located near Longyearbyen, Svalbard. The locations of the systems are such that they provide excellent coverage of the auroral and polar cap regions, with both the Double Star and Cluster satellites footprints passing routinely through the fields-of-view of the radars. The UHF systems, both on Svalbard and at Tromsø, are fully steerable over 360° in azimuth and down to 30° elevation. There is also an additional UHF system on Svalbard which remains fixed in a field aligned position. The codes allow for inter-pulse switching between the 2 systems on Svalbard.

The systems have pre-defined in-house codes and experiments to obtain complete ionospheric profiles from altitudes of  $\sim 50$  to 2500 km at temporal and spatial resolutions of sub-second and hundreds of meters respectively. The standard ionospheric parameters obtained are electron density, electron temperature, ion temperature and line-of-sight ion velocity. The system also benefits from 2 remote receivers located at Sodankyla, Finland and Kiruna, Sweden. Using this tri-static system, with the UHF transmitter at Tromsø, the true ionospheric flow vector can also be obtained.

There is also an additional facility located near Tromsø which can transmit high power, low frequency, focused radio waves into the ionosphere which interact with the naturally occurring plasma.

The systems are complemented by detailed observations from balloons, rockets and satellites as well as a wide range of ground-based instruments including magnetome-

ters, all-sky cameras, ionosondes and coherent backscatter radars.

This presentation will detail exciting new funding opportunities available at EISCAT to allow scientists who are from countries which are not members of EISCAT to run their own experiments using the system.