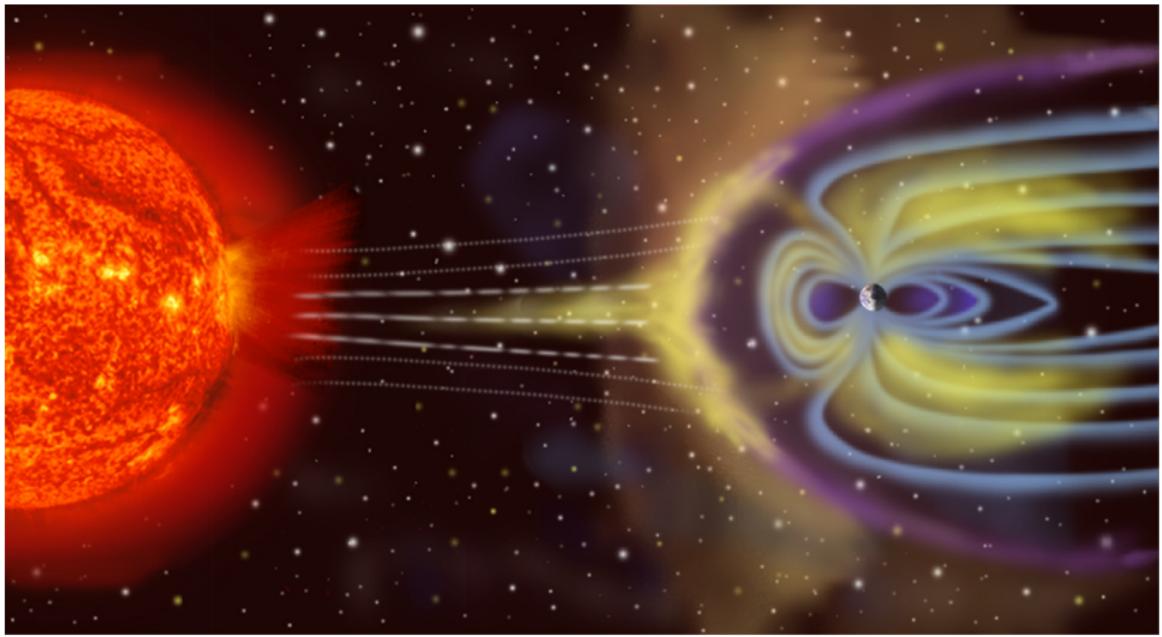


The EISCAT 3D project: Nordic Network Challenge



NORDIC E-INFRASTRUCTURE COLLABORATION

Solar wind and magnetosphere



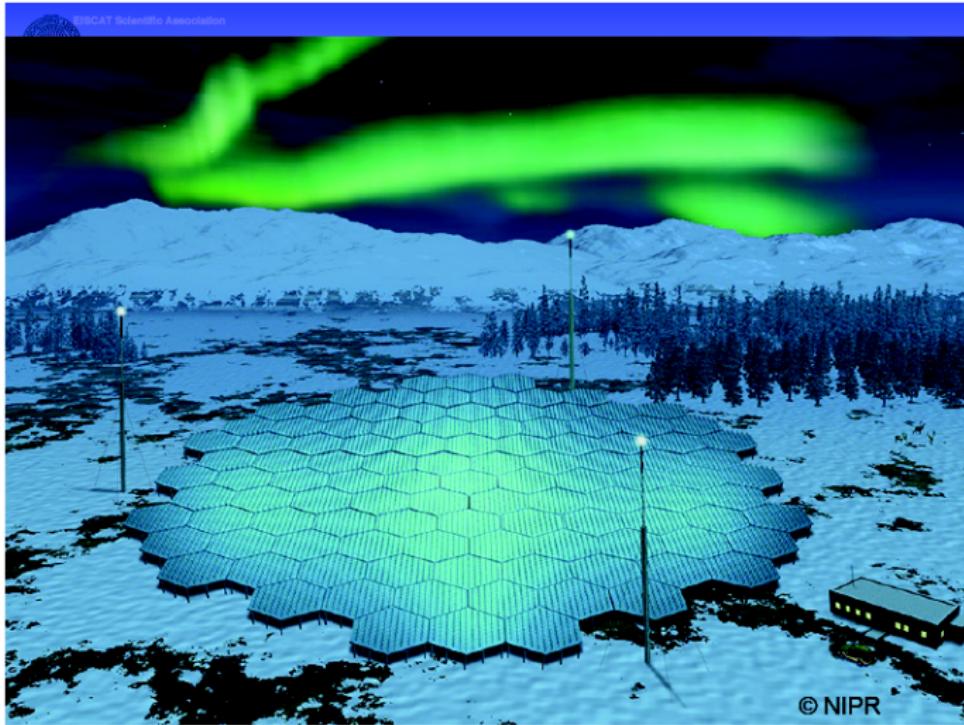
Current EISCAT radars



NASA via Wikimedia Commons, EISCAT

European Incoherent Scatter Scientific Association (**EISCAT**)

EISCAT_3D Project



Phased array radar. Solid state. ms response. 60° zenith angle

EISCAT_3D Project



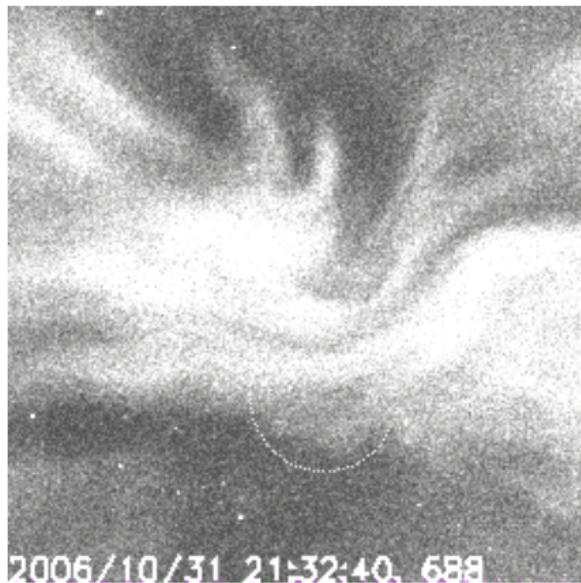
Phased array radar. Solid state. ms response. 60° zenith angle

A “typical” aurora...



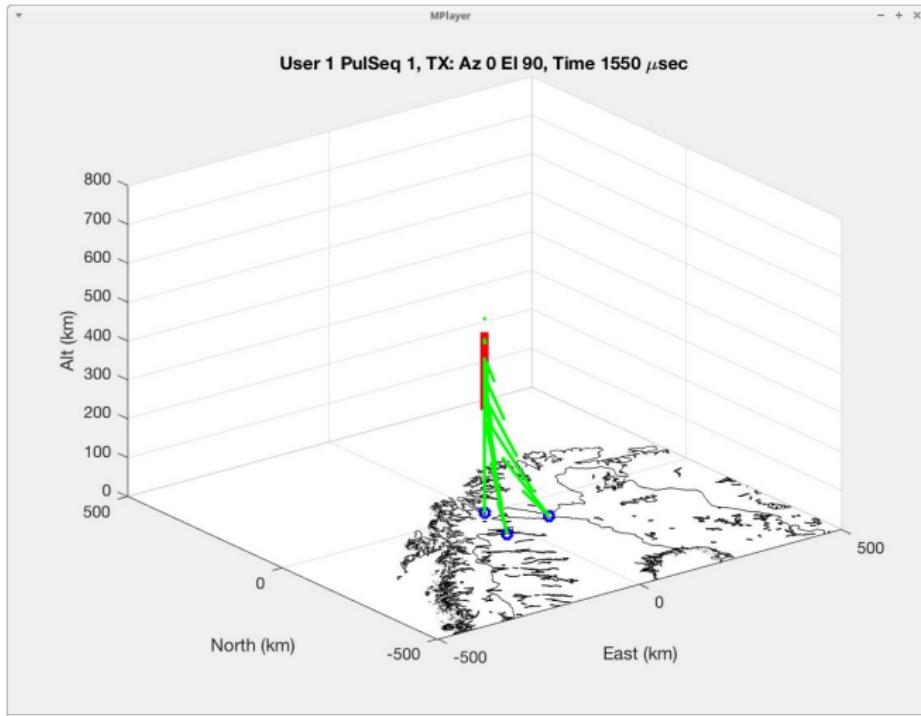
EISCAT_3D Kick-off, September 2017

Why EISCAT_3D?



ASK 3x3 degrees 31 Oct 2006 Hanna Dahlgren, KTH

EISCAT_3D Operation



https://www.eiscat.se/about/eiscat3d/eiscat_3d-operation-illustration/

EISCAT Data

- EISCAT_3D is a project of the EISCAT Scientific Association, therefore:
- Governed by the EISCAT rules ¹
- EISCAT data policy governed by blue book ²(2015)

¹<https://www.eiscat.se/scientist/document/governing-rules/>

²Page 39 onwards of https://www.eiscat.se/wp-content/uploads/2017/06/BlueBook_Edition2015.pdf



EISCAT Data Levels

Level	Type	Produced by	Storage	Format	Rate
1a	Ring buffer data	1 st stage beam former	4 months*	UDP stream/ HDF5	≤ 0.8 Tb/s
1b	Beam-formed data	2 nd stage beam former	4 months*	HDF5	64 Gb/s
2	Time integrated correlated data	All sites	Archived	HDF5	
3a	Physical parameters	All sites	Archived	HDF5	
3b	3D-voxel parameters	Operations centre	Archived	HDF5	≈ 1 Gb/s
4	Derived geophysical parameters	Users	Users	Publications etc	

- The EISCAT_3D Data Centres will receive, serve and archive all data at levels 2 and 3.
- Data used in research should be given Persistent Identifiers (PIPs) according to a common standard such as DOI, DataCite, or similar, to be unambiguously citable in publications.
- A 4 months period is selected as this is the estimated time required to perform a “real-time” analysis on low-level data.
- A portion of the level 1 data will also be archived permanently, on the order of 1% of the level 1 data rate, e.g. one beam per site and/or bandwidth-limited data.

EISCAT FAIR Data

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