

Status of the French SuperDARN radars

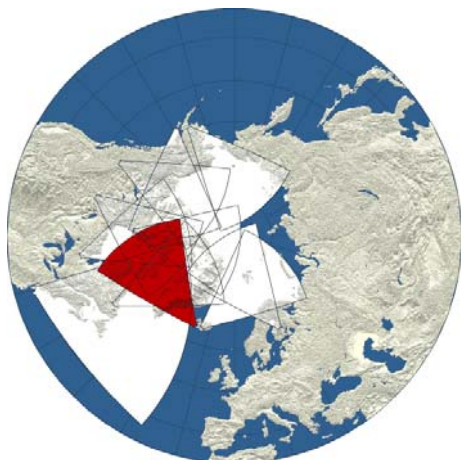
A. Marchaudon¹, C. Hanuise¹, P.L. Blelly², J.C. Cerisier³,
P. Fergeau¹, A. Péan³, X. Vallières¹

1 - LPCE, UMR 6115 CNRS / Université d'Orléans, Orléans

2 – CESR, UMR 5187, CNRS / Université Paul Sabatier, Toulouse

3 – CETP / IPSL, UMR 8639 , CNRS / Université de Versailles St Quentin en Yvelines, St Maur des Fossés

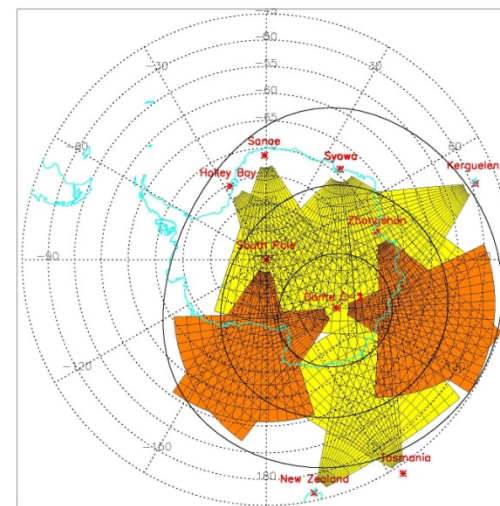
Radars with french involvement



Stokkseyri
Installation in 1993



Kerguelen
Installation in 1999/2000
France / Italy



Concordia
Development
France / Italy

French radars status

Situation after the illness and death of Jean-Paul Villain:

- Necessity of reorganization
- Review of SD by funding agencies (size of scientific community, scientific output, level of funding compared to available resources)
- Decision to adapt involvement to capabilities:
 - + limited scientific and technical manpower
 - + lack of sufficient support within STP community
 - + limited funding
- General situation of STP science in France

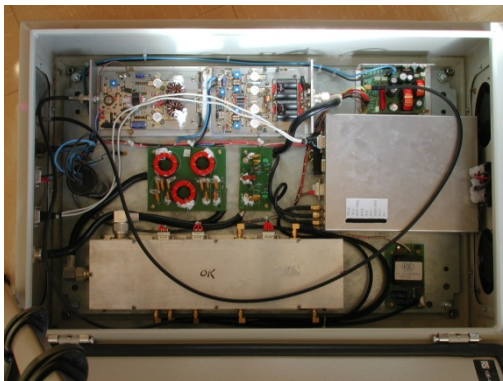
Status of Kerguelen radar

+ Operations with help of IPEV

+ Last maintenance during southern summer 2006/2007

+ Problems:

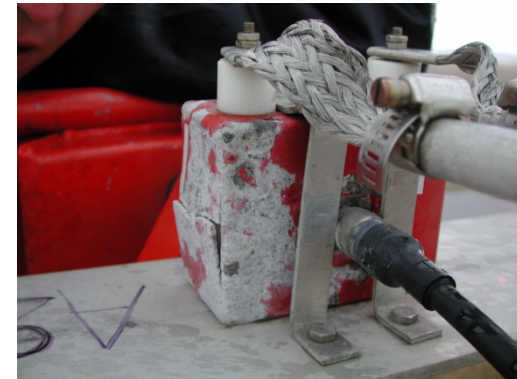
- only 12 (over 16) operating TX, no spares
- outdated computers / software (before 2004, unable to run THEMIS programs)
- all baluns in bad condition, should be replaced



SuperDARN Workshop, June 2008

Status of Stokkseyri radar

- + Contract with University of Reykjavik for operation
- + Last maintenance in 2004
- + Outdated computers / software
- + Important ongoing deterioration of antenna array due in particular to proximity of sea
- + Impact on data quality



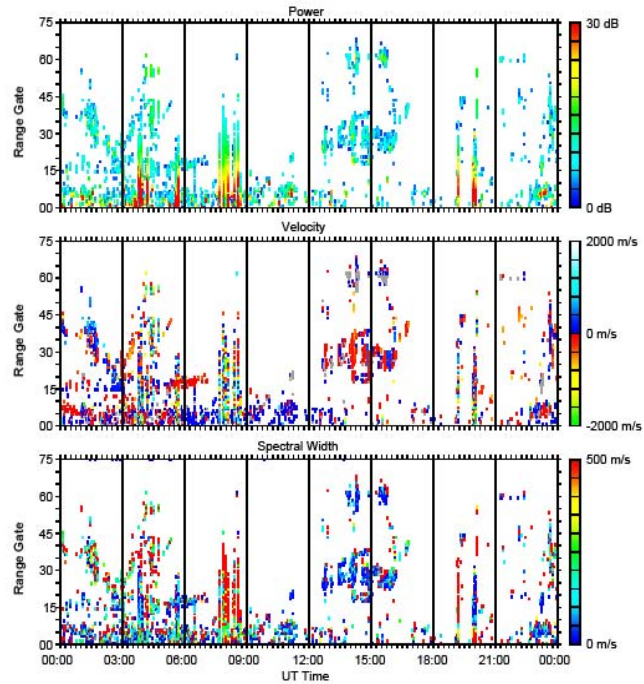
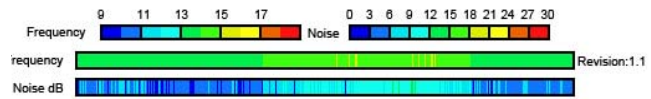
SuperDARN Workshop, June 2008

Status of Stokkseyri radar

Comparison for January 2, 2008

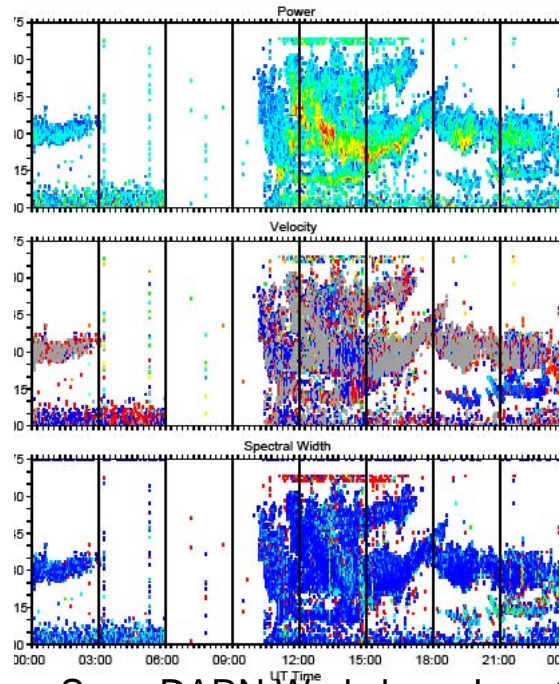
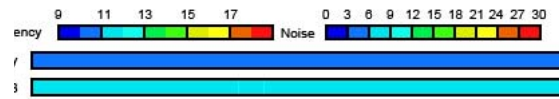
Station: Stokkseyri (sto)
Operated by: CNRS/LPCE

Beam 08
02, January 2008 (20080102)
Program ID: 4204



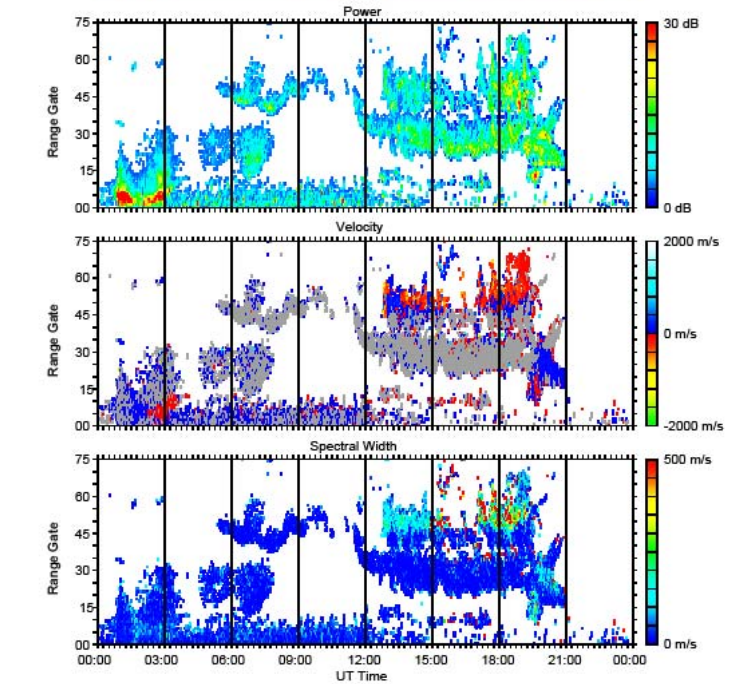
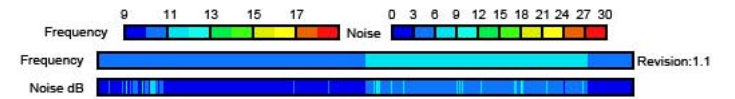
Station: Þykkvibaer (pyk)
Operated by: University of Leicester

Beam 08
02, January 2008
Program IDs: 153,



Station: Goose Bay (gbr)
Operated by: JHU/APL

Beam 08
02, January 2008 (20080102)
Program IDs: 502,-502



Status of Stokkseyri radar

Comparison 2005 – 2008

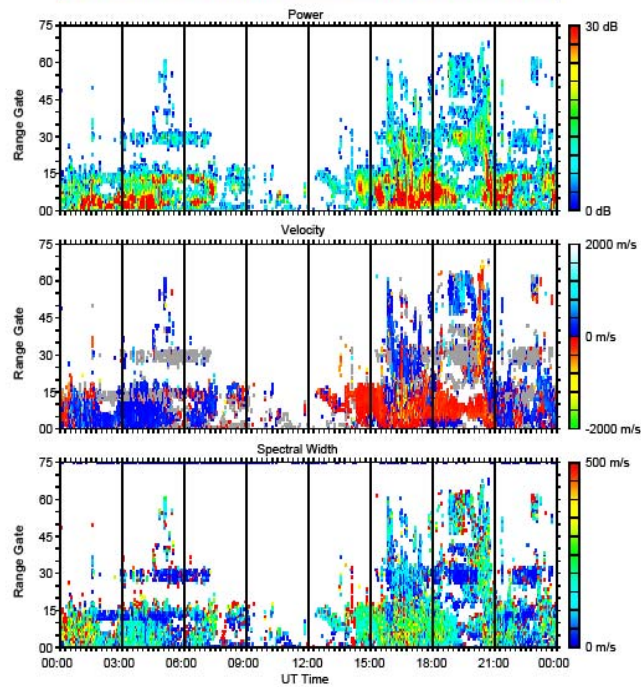
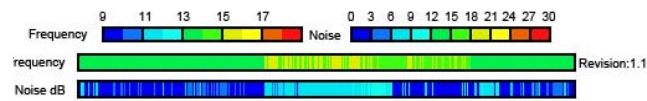
Ongoing quantitative study

Station: Stokkseyri (sto)
Operated by: CNRS/LPCE

Beam 08

02, January 2005 (20050102)

Program ID: 150

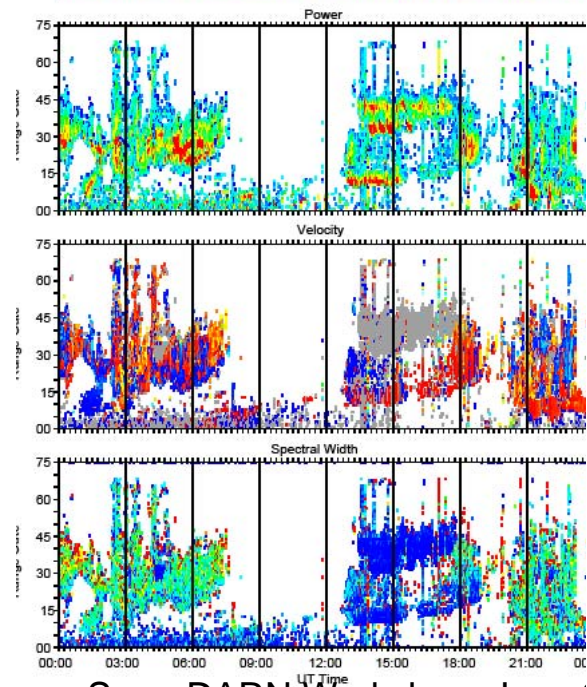
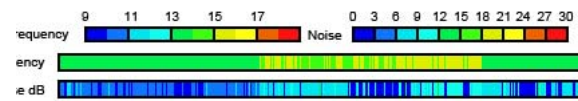


Station: Stokkseyri (sto)
Operated by: CNRS/LPCE

Beam 08

02, January 2006

Program ID: 150

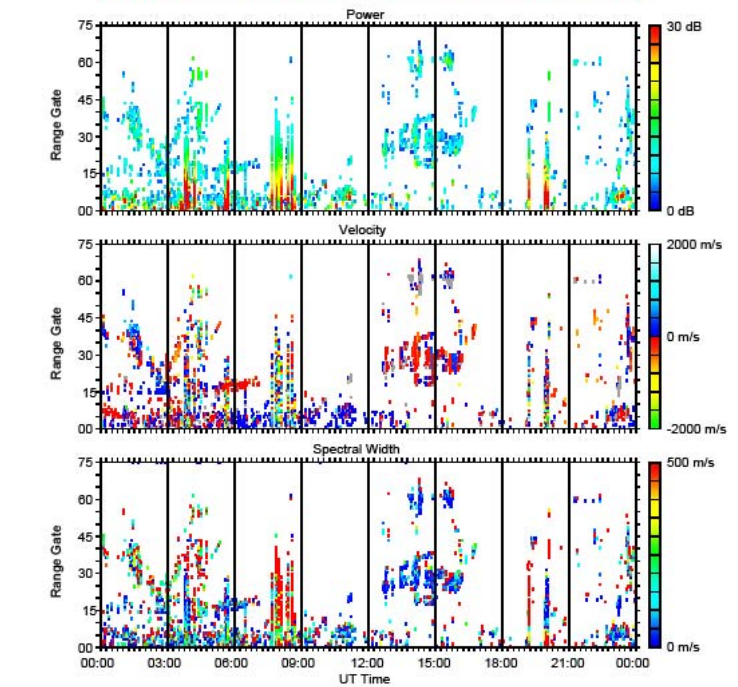
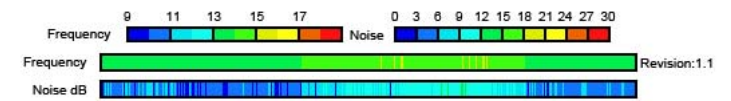


Station: Stokkseyri (sto)
Operated by: CNRS/LPCE

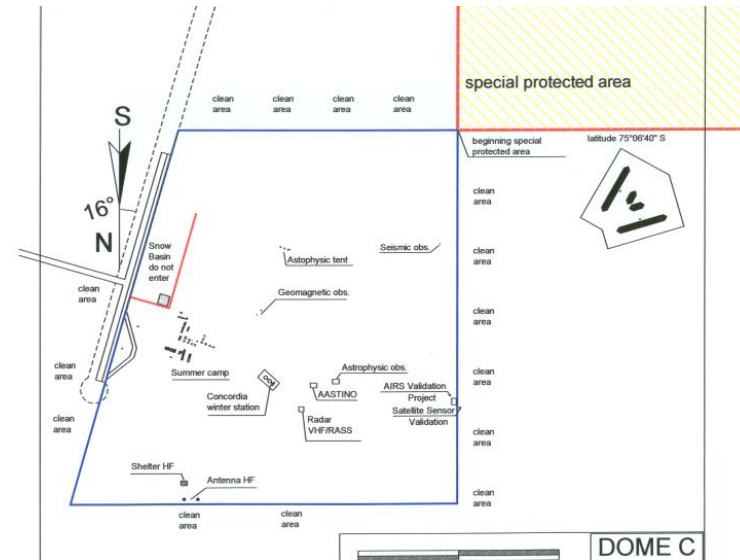
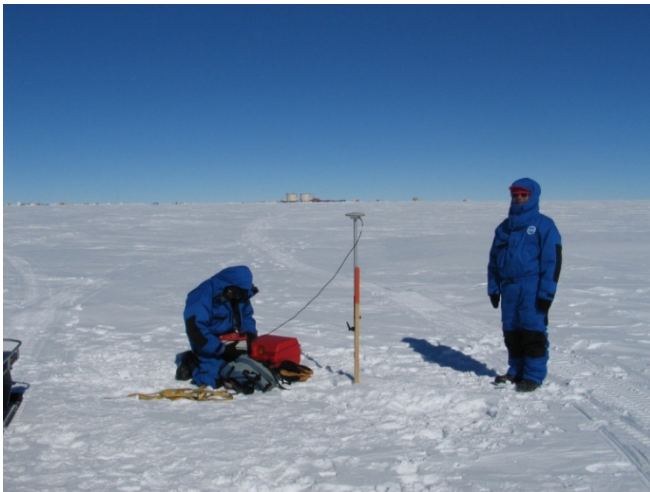
Beam 08

02, January 2008 (20080102)

Program ID: 4204



Concordia radars



- + Funding of equipment as agreed with IFSI (50/50)
- + Manpower ~ 15 man x months
- + Preparatory field trip in 2005/06
- + Shipment of equipment from LPCE in 12/2007
- + Planned participation of engineers to mechanical installation

SuperDARN Workshop, June 2008

French radars status : decisions

+ New organization:

- **Aurélie Marchaudon** PI
- P.L. Blelly Co-PI
- Expertise of J.C. Cerisier and C. Hanuise
- Technical support: P. Fergeau, A. Péan, X. Vallières



+ Decisions

- **Focus on Kerguelen radar** (upgrade, latest standards ...) with maintenance during southern summer 2009/2010.
- **Responsibility of Concordia radar transferred to IFSI**
- **Operation of Stokseyri radar until the end of 2009** in present state. Transfer of radar to other group(s) only possibility for continuing operations from 2010. Detailed audit of radar state in fall 2008.