

SuperDARN Workshop 2007 Program

(June 4-8, 2007, Hotel Abashirikoso, Abashiri, Hokkaido, Japan)

June 3 (Sunday)

Registration and icebreaker (1900 – 2100)

June 4 (Monday)

Greetings (0815 – 0820)

Chair: Takashi Kikuchi

1. Status reports, hardware developments, data handling

0820 SuperDARN status report

M. Lester

0900 Software status report

R.J. Barnes

0920 PolarDARN - Review of Rankin Inlet first year results and progress report on Inuvik radar

J.-P. St-Maurice, G. Sofko, K. McWilliams, S. Koustov, G. Hussey, D. Andre, J. Wiid, R. Choudhary, and M. Watanabe

0940 Initial observation with the Hokkaido radar

N. Nishitani, T. Ogawa, T. Kikuchi, R. Kataoka, K. Hosokawa, Y. Miyoshi, N. Sato, H. Yamagishi, A. S. Yukimatu, and Hokkaido Radar Group

1000 The construction and calibration of an interferometer antenna at Sanae, Antarctica

L. Kock, P.J. Cilliers, J.P.S. Rash, L.G. Magnus, and Z. Magogotya

1020 (break)

Chair: Mike Pinnock

- 1045 Imaging receivers for the Kodiak radar**
R. Todd Parris and W. A. Bristow
- 1105 The Siberian segment of SuperDARN**
G.A. Zherebtsov, V.I. Kurkin, and O.I. Bergardt
- 1125 10 Years radar operations at SANA E - A statistical overview**
E. Mravlag
- 1145 A new generic data access system suitable for SuperDARN**
T. Barnes, P. Breen, P. Kirsch, and M. Freeman
- 1205 (lunch)**

Chair: Kile Baker

2. Analysis techniques

- 1305 Performance issues with multipulse coding and possible solutions (tutorial)**
R. A. Greenwald, K. Oksavik, and R. J. Barnes
- 1345 A comparison of new and conventional ACF and FITACF analysis techniques**
K. Oksavik, R. A. Greenwald, and R. J. Barnes
- 1405 Application of arithmetic progression and arithmetic modulus codes to SuperDARN**
M. Balajit and W. A. Bristow
- 1425 Range imaging by FDI - heater induced FAI observed by SuperDARN and EISCAT**
A. S. Yukimatu, Y. Ogawa, M. Tsutsumi, K. Nishimura, M. Lester, T. Yeoman, D. Wright, M. Rietveld, and N. Sato
- 1445 A statistical database of high-latitude ionospheric convection derived from the SuperDARN Map Potential analysis**
A. Grocott, T.K. Yeoman, M. Lester, and S.E. Milan
- 1505 (break)**

Chair: Gerald Blanchard

- 1530 The application of Multi-Taper Methods (MTM) to radar observations of FLRs and simultaneous discrete oscillations in the solar wind**
J.A.E. Stephenson, A.D.M. Walker, and J.P.S. Rash

1550 A statistical characterisation for quasi real-time tracking of magnetospheric regions with SuperDARN

G. Lointier, C. Hanuise, T. Dudok de Wit, X. Vallieres, and J.P. Villain

1610 An empirical virtual height model for SuperDARN HF radar backscatter

G. Chisham and M. P. Freeman

Chair: Mike Ruohoniemi

3. Convection dynamics

1630 Steady magnetospheric convection selection criteria: Implications of global SuperDARN convection measurements

K.A. McWilliams, J.B. Pfeifer, and R.L. McPherron

1650 Complexity in electric field fluctuations implied by TIGER HF radar observations of F-region Doppler velocity measured at 1-second time resolution

M. L. Parkinson and P. L. Dyson

1710 Statistics of velocity fluctuations

W. A. Bristow

1730 Investigating turbulent structure of ionospheric plasma velocity using the Halley SuperDARN radar

G. A. Abel, M. P. Freeman, G. Chisham, and N.W. Watkins

1750 Measurements of ionospheric electric field fluctuations by FM-CW HF radar in the field of view of the SuperDARN Hokkaido radar

M. Shinohara, A. Ikeda, K. Nozaki, V. V. Bychkov, B. M. Shevtsov, N. Nishitani, and K. Yumoto

1810 (Session close)

Group meetings (night)

June 5 (Tuesday)

Chair: Jean-Paul Villain

4. Cusp / polar cap processes

0815 PolarDARN measurements of lobe cell dynamics during strong By+ conditions

G. Sofko, R. Choudhary, G. Hussey, M. Watanabe, K. McWilliams, and J.-P. St-Maurice

0835 Auroral and radar signatures associated with IMF transients

H. Hu, R. Liu, H. Yang, D. Huang, Z. Hu, M. Lester, and T. Yeoman

0855 Multi-instrumentation observations of transpolar arcs in the northern hemisphere

A. Goudarzi, M. Lester, and S. Milan

0915 A statistical study of the open flux content of the magnetosphere at the time of substorm onset

P.D. Boakes, S.E. Milan, G.A. Abel, M.P. Freeman, G. Chisham, M. Lester, and B. Hubert

0935 EISCAT high resolution measurements of reversed flow events in the cusp ionosphere

Y. Rinne, J. Moen, K. Oksavik, and H. C. Carlson

0955 Hokkaido radar observation of cusp flows during a large storm

N. Nishitani, T. Ogawa, T. Kikuchi, R. Kataoka, Y. Miyoshi, K. Hosokawa, K. Shiokawa, Y. Otsuka, N. Sato, H. Yamagishi, and A. S. Yukimatu

1015 (break)

Chair: Y. Kamide

5. Auroral zone processes

1040 Reimei auroral particle / image simultaneous observations (invited)

K. Asamura, T. Sakanoi, M. Hirahara, Y. Obuchi, Y. Ebihara, K. Seki, A. Yamazaki, M. Okada, and Y. Kasaba

1110 On the motion of the dayside aurora with global plasma convection

G. Provan, J. Moen, S. E. Milan, and M. Lester

1130 Reversed flow events in the cusp ionosphere: Are they an inverted V signature?

J. Moen, Y. Rinne, H. Opgenoorth, R. Fujii, H. C. Carlson, and K. Oksavik

1150 Recurrent sub-substorms with period of 1 hour

J. Liang, W. W. Liu, H. U. Frey, and E. Spanswick

1210 (lunch)

1330 Location of the spectral width boundary: A statistical study

P. Jensen and W. A. Bristow

Chair: Kjellmar Oksavik

6. Subauroral region processes

1350 Dual TIGER radar study of the sub-auroral polarization streams

R. A. Makarevich

1410 SuperDARN Hokkaido radar observations of ionospheric convection during magnetic storms

R. Kataoka, N. Nishitani, T. Kikuchi, T. Ogawa, K. Hosokawa, and Y. Ebihara

1430 Initial backscatter occurrence statistics from the Hokkaido SuperDARN radar

K. Hosokawa, N. Nishitani, R. Kataoka, and T. Ogawa

1450 Possible observation of spatial and temporal structure of the "overshielding" from the SuperDARN Hokkaido radar

Y. Ebihara, N. Nishitani, T. Kikuchi, T. Ogawa, K. Hosokawa, and M.-C. Fok

1510 Penetration of storm-time electric field to low latitude

T. Kikuchi, Y. Ebihara, K. K. Hashimoto, K. Ohtaka, and K. Kitamura

1530 (break)

Chair: Natsuo Sato

7. Special paper

1555 Look back on polar ionosphere and mesosphere observations with the SuperDARN radars (invited)

T. Ogawa

Chair: Peter Dyson

8. Neutral processes

1625 Long duration analyses of planetary wave and tidal activity at mesospheric heights

J. M. Ruohoniemi, E. R. Talaat, and I. Azeem

1645 Directional wind measurements of the Southern Ocean using the TIGER and Unwin SuperDARN radars

R. I. Greenwood, M. L. Parkinson, P. L. Dyson, and H. Ye

1705 The NICT real-time thermosphere-ionosphere simulator: Initial results

H. Shinagawa, H. Shimazu, N. Terada, H. Jin, T. Obara, S. Fujita, and T. Tanaka

1725 Observations of ionospheric variations following the 13 January 2007 earthquake using GPS and Hokkaido HF radar

Y. Otsuka, Y. Yamaya, N. Nishitani, and T. Ogawa

1745 (session close)

Poster session (1930 – 2100)

P1 Plans for the South African low-latitude HF radar

L Magnus, L Kock, and P Sutcliffe

P2 South Pole radar

R. T. Parris, W. A. Bristow

P3 A multi-function mid latitude radar for the Australian region

J. Devlin, P. Dyson, and J. Whittington

P4 Propagation mode and scatter type identification using Channel Scatter Function analysis of TMS data

R. I. Greenwood, M. L. Parkinson, and P. L. Dyson

P5 Operational meteor wind observation based on raw time series analysis

M. Tsutsumi and A. S. Yukimatu

P6 A statistical approach for characterizing the SuperDARN autocorrelation function

G. Lointier, T. Dudok de wit, C. Hanuise, X. Vallieres, and J.-P. Villain

P7 fitacf, lag-0 power, new ROS and TMS mode

A. S. Yukimatu

P8 Changes to astronomical calculations and Magnetic Local Time

K. B. Baker

P9 Regional space weather models via ground based data

J. Wanliss, V. V. Anh, and Z.-G. Yu

P10 Quick look of the Geospace data with Dagik (Daily Geospace data in kml)

A. Saito

P11 SuperDARN and incoherent scatter radars: Effective data assimilation?

T. van Eyken and M. Lester

P12 Comparison of the ionospheric convection estimated from SuperDARN observations with MHD simulation results by using inputs from ACE data - withdrawn

M. Kunitake, K. Ohtaka, S. Watari, H. Shinagawa, H. Shimazu, S. Fujita, and T. Tanaka

P13 Large-scale electric field in the inner magnetosphere during geomagnetic storms

A. Shinbori, Y. Nishimura, T. Ono, A. Kumamoto, and T. Kikuchi

P14 Variations of magnetic field structure associated with storms

Y. Tsujii, A. Shinbori, and T. Kikuchi

P15 Study of sun-aligned arcs observed with OMTIs and SuperDARN

C. Yamakawa, K. Hosokawa, T. Kashimoto, K. Shiokawa, T. Ogawa, and T. Shibata

P16 Estimating possible source of polar cap patches by using OMTIs and SuperDARN

T. Kashimoto, K. Hosokawa, C. Yamakawa, K. Shiokawa, T. Ogawa, and T. Shibata

P17 Analysis of the impulse response function relating the solar wind electric field to the magnetospheric reconnection rate

G. Blanchard, S. Sundeen, and K.B. Baker

P18 Cosmic noise absorption and ionospheric electric field

A. C. Kellerman and R. A. Makarevich

P19 SuperDARN and NICT ground-based observations

S. Watari, M. Kunitake, K. Ohtaka, K. Kitamura, T. Hori, and T. Kikuchi

P20 Three-dimensional Hall-MHD simulation of magnetosphere-ionosphere coupling

J. Kondo, T. Ogino, and A. Kageyama

P21 Life time of the shielding electric field during an isolated southward IMF event as observed by SuperDARN and magnetometer network

K. Hashimoto, T. Kikuchi, Y. Ishikawa, and M. Kunitake

P22 One-to-one correspondence between isolated auroral arcs and Pc 1 geomagnetic pulsations at subauroral latitudes

K. Sakaguchi, K. Shiokawa, Y. Miyoshi, A. Ieda, Y. Otsuka, T. Ogawa, M. Connors, and E. Donovan

P23 New Antarctic Fabry-Perot Spectrometers providing new opportunities for detailed comparison of neutral wind structures with convection mapped by SuperDARN

M. Conde, C. Anderson, T. Davies, P. Dyson, and M. Kosch

P24 Ionospheric signature of flow bursts in the magnetotail:

Geotail-SuperDARN conjunction study

T. Hori, K. Hosokawa, Y. Miyashita, K. Ohtaka, M. Kunitake, S. Watari, T. Kikuchi, Y. Saito, and T. Mukai

P25 Characteristics of the MSTIDs' long-range propagation: simultaneous observations at auroral and mid-latitudes

T. Ishida, K. Hosokawa, T. F. Shibata, and N. Nishitani

P26 A statistical study of decameter E-region backscatter with the TIGER radars

B. A. Carter and R. A. Makarevich

P27 TIGER HF radar observations of F-region Doppler velocity measured concurrently at 1- and 6-second time resolution

M. L. Parkinson, H. Ye, and P. L. Dyson

P28 Heights of SuperDARN F-region echoes estimated from the analysis of HF radio wave propagation

A.V. Koustov, D. Andre, E. Turunen, T. Raito, and S. E. Milan

P29 The Precision Expandable Radar Calibration Sphere (PERCS)

P. A. Bernhardt

P30 Neutral density enhancement in the equatorward region of polar cap plasma convection

S. Watanabe, S. Sato, H. Liu, and H. Luhr

June 6 (Wednesday)

Chair: Hisao Yamagishi

9. MHD waves

0815 Cross-beam observations of ULF waves by TIGER (Tasmania and New Zealand) radars

C. L. Waters, P. V. Ponomarenko, and M. D. Sciffer

0835 High latitude observation of small scale ULF waves

C. Gane, D. Wright, and T. Raita

0855 An analysis of Pc5 pulsation events observed in 2004 with the SuperDARN network

L. Magnus and A. D. M. Walker

0915 Evolution of complexity in small-scale solar wind turbulence measured over three solar cycles at 1 AU

M. L. Parkinson, R. C. Healey, and P. L. Dyson

Chair: Iginò Coco

10. Interhemispheric studies / polar outflow

0935 North-south asymmetry of IMF driven reconfiguration of high latitude convection: A case study

D. Ambrosino, E. Amata, M. F. Marcucci, I. Coco, W. A. Bristow, and P. Dyson

0955 Theories and observations of the polar plasma outflow

S. W. Y. Tam and C. Z. Cheng

1015 (break)

Chair: Shigeto Watanabe

11. SuperDARN / satellite collaboration

1040 FORMOSAT-3/COSMIC mission early results (invited)

C. Z. Cheng, C. Y. Huang, C. H. Lin, S. W. Tam, and J. Y. Liu

1110 Multi-scale observations of magnetotail flux transport during IMF-northward non-substorm intervals

A. Grocott, T.K. Yeoman, S.E. Milan, O. Amm, H.U. Frey, R. Nakamura, C.J. Owen, H. Reme, and T. Takada

1130 Testing the equipotential magnetic field line assumption using SuperDARN and Cluster EDI

J. B. H. Baker, R. A. Greenwald, and J. M. Ruohoniemi

1150 Fast earthward flows in the magnetotail and ionospheric convection during weak substorms: Geotail and SuperDARN observations

Y. Miyashita, K. Hosokawa, T. Hori, M. Fujimoto, I. Shinohara, S. Machida, T. Mukai, Y. Saito, A. S. Yukimatu, and N. Sato

1210 (lunch)

PM Schedule

Group photo

Tour to Rikubetsu

Visit to Hokkaido radar site (1430 – 1530)

SuperDARN world cup (1600 – 1730)

Dinner at Rikubetsu town hall (1800 – 2000)

Visit to Rikubetsu Astronomical Observatory / STELAB Rikubetsu Observatory (2000 –)

Return to Hotel Abashirikoso at night

June 7 (Thursday)

Chair: Keisuke Hosokawa

11. SuperDARN / satellite collaboration (continued)

0815 Early results of the Solar-B (Hinode) spacecraft program (invited)

K. Ichimoto and Hinode Team

0845 Contribution of Geotail results to our understanding of magnetotail dynamics (invited)

M. Fujimoto

0915 Japanese geospace exploration mission: The ERG project

Y. Miyoshi, K. Seki, K. Shiokawa, N. Nishitani, T. Kikuchi, T. Ono, Y. Kasaba, A. Kumamoto, M. Hirahara, T. Takashima, K. Asamura, A. Matsuoka, K. Yumoto, and ERG working group

Chair: Akinori Saito

12. Ionospheric irregularities

0935 On the factors affecting ACF power decay

P. V. Ponomarenko, M. P. Freeman, C. L. Waters, and F. W. Menk

0955 Medium-scale traveling ionospheric disturbances observed by the SuperDARN Hokkaido radar and GEONET: A case study

T. Ogawa, N. Nishitani, Y. Otsuka, T. Tsugawa, and A. Saito

1015 (break)

1040 The generation of F region interchange instabilities at high latitudes under any electric field and ambient gradient conditions

J.-P. St-Maurice, and M. Gillies

1100 On the origin of HF backscatter irregularities

E. Osmundsen, J. Moen, H. C. Carlson, and K. Oksavik

1120 Comparison of SuperDARN echo occurrence with GPS scintillation events

I. Coco, E. Amata, M. F. Marcucci, L. Alfonsi, G. de Franceschi, V. Romano, P. Dyson, and M. Lester

1140 (Session close)

(Lunch – served as lunchbox and taken inside the bus)

PM schedule

Tour to Shiretoko Peninsula

Bus leaves at 1220 – arrives at Utoro port at 1410

Boat leaves Utoro Port at 1430 (STRICT!!)

Boat returns to the port at 1600

Back to the hotel at 1740

Banquet (1830 – 2130)

June 8 (Friday)

Chair: Tadahiko Ogawa

12. Ionospheric irregularities (continued)

0815 Spatial relationship of polar cap patches and field-aligned irregularities observed with an all-sky imager at Resolute Bay and PolarDARN Rankin Inlet

K. Hosokawa, K. Shiokawa, Y. Otsuka, T. Ogawa, J.-P. St-Maurice, G. Sofko, and D. Andre

0835 Medium-scale traveling ionospheric disturbances observed in the midlatitude ionosphere

A. Saito, N. Fujita, Y. Otsuka, and T. Tsugawa

0855 Traveling ionospheric disturbances observed by Millstone Hill IS radar and GPS network in North America

T. Tsugawa, L. Goncharenko, S.-R. Zhang, A. Coster, W. Rideout, Y. Otsuka, and A. Saito

0915 Irkutsk incoherent scatter radar: An overview of coherent echo observations

O. I. Bergardt

0935 (break)

Chair: Mark Lester

SuperDARN 2008 / Working group reports / PI's report / etc. (1000-)

1200 lunch - adjourn