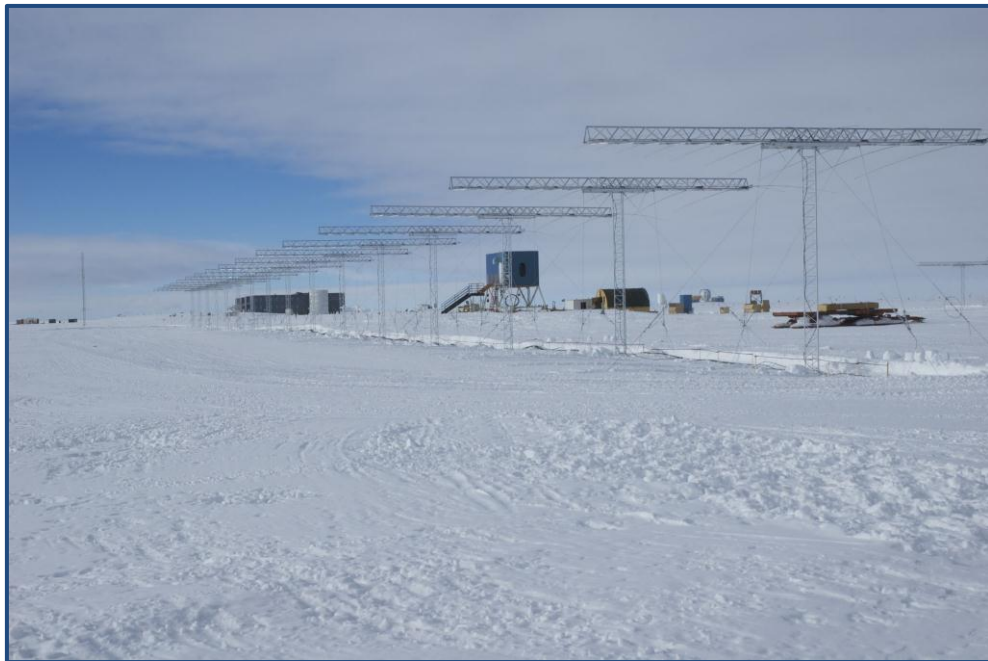


SuperDARN Workshop 2016

29 May – 3 June 2016, Fairbanks, Alaska, USA



Workshop Program



Sunday, 29 May

4:00 PM Onsite registration opens

5:00 PM Icebreaker (Minto room)

Monday, 30 May

Chair Roman Makarevich

9:00 AM Welcome and PI's report
M. Lester

9:30 AM Scheduling Working Group report
G. Chisham

9:40 AM Spacecraft Working Group report
*K. T. Sterne, R. C. Fear, *J. M. Ruohoniemi, and T. Hori*

9:50 AM Data analysis Working Group report
P. Ponomarenko

10:00 AM Data distribution Working Group report
K. Krieger

10:10 AM The Svalbard SuperDARN radar - first light
**D. A. Lorentzen, L. Baddeley, M. Syrjäso, and G. Chisham*

10:30 AM Break (Yukon room)

Chair Sessai Yukimatu

11:00 AM Construction progress of the AgileDARN in China
**J. J. Zhang, A. L. Lan, J. Y. Yan, and C. Wang*

11:20 AM Calibrating SuperDARN interferometers using meteor backscatter
G. Chisham

11:40 AM Calibrating SuperDARN interferometer arrays
**A. G. Burrell, T. K. Yeoman, S. E. Milan, and M. Lester*

12:00 PM Evaluating transverse ionospheric drift velocity from spatial correlation analysis of oblique, high-frequency groundscatter
T. E. Theurer

12:30 PM Lunch (West Gold room)

* indicates a presenting author



Chair Gareth Chisham

- 2:00 PM Validation of SuperDARN methods for geolocation and refractive index determination using ionospheric ray tracing**
**R. A. Greenwald, N. Frissell, and S. de Larquier*
- 2:20 PM Magnetic Local Time and AACGM-v2**
S. G. Shepherd
- 2:40 PM FITACF 3**
P. Ponomarenko and K. Kotyk
- 3:00 PM Comparison of 7 and 8 pulse transmit sequences**
C. L. Waters
- 3:20 PM Break**
- 3:50 PM Double-frequency operation in the AgileDARN**
**A. L. Lan , J. Y. Yan, J. J. Zhang, and C. Wang*
- 4:10 PM Calculating ionospheric plasma densities from SuperDARN dual-frequency velocity measurements using artificial backscatter over EISCAT**
**L. K. Sarno-Smith, M. Kosch, T. Yeoman, M. Rietveld, A. Nel, and M. W. Liemohn*
- 4:30 PM Preliminary result on the statistical analysis on the effect of energy parameters on HF backscatter**
**H. A. Lawal and M. Lester*
- 4:50 PM Identification of ionospheric electron density changes due to solar flares and energetic particle precipitation using the SuperDARN data**
**N. Nishitani, T. Hori, A. S. Yukimatu, and T. Nagatsuma*
- 5:10 PM Characterization of Sudden Ionospheric Disturbance (SID) based on statistical analysis of events of Shortwave Fadeout observed in daytime SuperDARN ground-scatter**
*S. Chakraborty, *J. M. Ruohoniemi, and J. Baker*
- 6:00 PM Dinner (West Gold room)**
- 7:00 PM WG Meetings (Minto and Gold rooms)**



Tuesday, 31 May

Chair *Colin Waters*

- 9:00 AM** **Solar control of F-region radar backscatter: Further insight from observations in the southern polar cap**
**L. J. Lamarche and R. A. Makarevich*
- 9:20 AM** **Causes of HF backscatter fadeout: A study of SuperDARN data during intense geomagnetic storms**
**J. L. Currie, C. L. Waters, F. W. Menk, and M. D. Sciffer*
- 9:40 AM** **Dual radar investigation of E-region plasma waves in the southern polar cap**
**V. V. Forsythe and R. A. Makarevich*
- 10:00 AM** **Large-scale ultra-low frequency waves in the southern polar cap**
**E. C. Bland and A. J. McDonald*
- 10:20 AM** **Break**
- 11:00 AM** **SuperDARN convection models: Past, present, and future**
**E. G. Thomas, S. G. Shepherd, J. M. Ruohoniemi, and J. B. H. Baker*
- 11:20 AM** **Characterizing the spatio-temporal response of high latitude convection using SuperDARN, DMSP, and ACE**
**R. A. Stoneback, J. Baker, W. R. Coley, and M. R. Hairston*
- 11:40 AM** **Solar cycle variations in SuperDARN data**
**S. M. Imber, S. Milan, and M. Lester*
- 12:00 PM** **Lunch**
- 1:00 PM** **Poster Session (Yukon room)**
- Workshop Excursion to Poker Flat Research Range*
- 3:00 PM** **Coach leaves for Poker Flat Research Range**
- 7:30 PM** **Coach leaves for Chatanika Lodge**
- 7:30 PM** **Dinner at Chatanika Lodge**
- 9:30 PM** **Coach leaves for Westmark Hotel**
- 10:30 PM** **Coach arrives to Westmark Hotel**



Posters

- P1** **Large scale coordinated observations of Pc5 pulsation events**
**Z. Mtumela, J. A. E. Stephenson, A. D. M. Walker, and M. Kosch*
- P2** **Simultaneous ground and satellite observations of throat aurora**
X. Chen
- P3** **Hemispheric asymmetry of the structure of dayside auroral oval and distribution of dayside auroral morphology**
**Z.-J. Hu, Y. Ebihara, Q. Yang, H.-G. Yang, H.-Q. Hu, B.-C. Zhang, B. Ni, R. Shi, and T. S. Trondsen*
- P4** **Design of upgraded antenna for Syowa radars**
A. S. Yukimatu
- P5** **HF radar observations of a Quasi Biennial Oscillation in mid-latitude mesospheric winds**
*G. Malhotra, *J. M. Ruohoniemi, J. B. H. Baker, R. E. Hibbins, and K. A. McWilliams*
- P7** **Methods for estimating regional auroral electron energy deposition from ground-based optical measurements**
**D. L. Hampton, M. G. Conde, M. J. Ahrns, K. A. Lynch, M. Zettergren, S. R. Kaeppler, and M. Nicolls*
- P8** **Possible correlation of GPS scintillation data and SuperDARN data at polar latitudes**
M. R. Simon
- P9** **Hardware and software design for dual polarization measurements at Kodiak**
J. T. Klein
- P10** **Survey of SuperDARN elevation angles**
**S. G. Shepherd and P. V. Ponomarenko*



Wednesday, 1 June

Chair *Simon Shepherd*

- 9:00 AM** **Analysis of the decameter E-region irregularities and the plasma convection in the southern hemisphere**
**V. V. Forsythe and R. A. Makarevich*
- 9:20 AM** **A modeling study of asymmetries in plasma irregularity characteristics near gradient reversals**
**L. J. Lamarche and R. A. Makarevich*
- 9:40 AM** **SuperDARN investigations of an unusual sporadic-E layer as a result of a missile destruction**
**M. Lester, A. Kozlovsky, S. E. Milan, A. G. Burrell, and T. K. Yeoman*
- 10:00 AM** **Nighttime PolarDARN E-region echoes in the presence of sporadic E layers**
**A. V. Koustov and K. N. Yakymenko*
- 10:20 AM** **Break**
- 11:00 AM** **GPS phase scintillation during the geomagnetic storm of March 17, 2015: The relation to auroral electrojet currents**
**P. Prikryl, R. Ghoddousi-Fard, M. Connors, J. M. Weygand, D. W. Danskin, P. T. Jayachandran, E. G. Thomas, J. M. Ruohoniemi, T. Durgonics, K. Oksavik, and Y. Zhang*
- 11:20 AM** **A comparison between large-scale irregularities and scintillations in the polar ionosphere**
**Q.-H. Zhang, Y. Wang, P. T. Jayachandran, M. Lockwood, S.-R. Zhang, J. Moen, Z.-Y. Xing, Y.-Z. Ma, and M. Lester*

Workshop Excursion to Chena Hot Springs Resort

- 12:00 PM** **Coach leaves for Chena Hot Springs Resort (box lunch)**
- 1:30 PM** **Coach arrives to Chena Hot Springs Resort**
- 6:00 PM** **Dinner at Chena Hot Springs Resort (Aurora room)**
- 8:30 PM** **Coach leaves for Westmark Hotel**
- 10:00 PM** **Coach arrives to Westmark Hotel**



Thursday, 2 June

Chair *Jo Baker*

- 9:20 AM** **On the observed dissipation of F-region FAI after cessation of heating**
**W. A. Bristow and D. L. Hysell*
- 9:40 AM** **Dynamics of plasma convection in the reverse convection region under extreme northward IMF conditions**
**M. Maimaiti, J. M. Ruohoniemi, J. B. H. Baker, C. R. Clauer, M. J. Nicolls, and M. R. Hairston*
- 10:00 AM** **Joint RISR-SuperDARN study of the plasma throat during a poleward excursion of the IMF Bz**
*R. Gillies and *J-P St-Maurice*
- 10:20 AM** **Break**
- 11:00 AM** **Dawn-dusk asymmetry of SI-associated transient ionospheric convection oscillation**
**T. Hori, A. Shinbori, S. Fujita, and N. Nishitani*
- 11:20 AM** **The diffraction of power in the polar ionosphere**
**R. A. Stoneback and R. A. Heelis*
- 11:40 AM** **High frequency groundscatter over Hankasalmi**
**A. G. Burrell, H. Lawal, T. K. Yeoman, M. Lester, and S. E. Milan*
- 12:00 PM** **Lunch**



Chair *Evan Thomas*

1:40 PM **Multi-instrument studies of thermospheric weather above Alaska**
**M. G. Conde, W. A. Bristow, D. L. Hampton, M. J. Nicolls,
 L. J. Paxton, and M. G. McHarg*

2:00 PM **Sources and characteristics of Medium Scale Traveling
 Ionospheric Disturbances observed by High Frequency radars in
 the North American sector**
*N. A. Frissell, *J. B. H. Baker, J. M. Ruohoniemi, R. A. Greenwald,
 A. J. Gerrard, E. S. Miller, and M. L. West*

2:20 PM **Longitudinally-propagating ionospheric flow structures observed
 by SuperDARN during March 17-18, 2015 storm**
**T. Hori, N. Nishitani, K. Keika, J. M. Ruohoniemi, M. Teramoto,
 S. G. Shepherd, and W. A. Bristow*

2:40 PM **Ionospheric convection observed by the SuperDARN Hokkaido
 Pair of (HOP) radars associated with low-latitude auroras**
**N. Nishitani, T. Hori, R. Kataoka, Y. Ebihara, K. Shiokawa,
 Y. Otsuka, and H. Suzuki*

3:00 PM **Break**

Chair *Mark Lester*

3:30 PM **WG reports and discussion**

7:00 PM **Conference dinner (West Gold room)**



Friday, 3 June

Chair *Hongqiao Hu*

9:20 AM **Global Pi2 pulsations observed by THEMIS spacecraft, ground magnetometers, and mid-latitude SuperDARN radars during substorm onset**
*X. Shi, *J. B. H. Baker, J. M. Ruohoniemi, M. D. Hartinger, N. A. Frissell, and J. Liu*

9:40 AM **Simultaneous ground-based optical and SuperDARN observations of the shock aurora**
**J. Liu and H. Hu*

10:00 AM **Earth's ion upflow associated with polar cap patches: Global and in-situ observations**
**Q.-H. Zhang, Q.-G. Zong, M. Lockwood, R. A. Heelis, J. Liang, I. McCrea, J. Moen, S. R. Zhang, J. M. Ruohoniemi, and M. Lester*

10:20 AM **Break**

10:50 AM **Equatorial ionospheric HF radar: Simulation, design, and plans**
**R. T. Parris, T. Pedersen, E. Dao, R. Giar, and R. Kelly*

11:10 AM **A link between high-speed solar wind streams and extratropical cyclones**
**P. Prikryl, K. Iwao, T. Tsukijihara, D. B. Muldrew, V. Rušin, M. Rybanský, and R. Bruntz*

11:30 AM **Lunch**

Workshop End

