

# Bibliography of AMISR-related Publications

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## 2012

- Akbari, H., J. L. Semeter, H. Dahlgren, M. A. Diaz, M. Zettergren, A. Stromme, M. J. Nicolls, and C. J. Heinselman, "Anomalous ISR echoes preceding auroral breakup: Evidence for strong Langmuir turbulence," *Geophys. Res. Lett.*, doi:10.1029/2011GL050288, **in press**.
- Burchill, J.K., J.H. Clemmons, D.J. Knudsen, M.F. Larsen, M.J. Nicolls, R.F. Pfaff, D. Rowland, and L. Sangalli, "High latitude E region ionosphere-thermosphere coupling: A comparative study using in situ and incoherent scatter radar observations," *J. Geophys. Res.*, doi:10.1029/2011JA017175, **in press**.

## 2011

- Liang, J., E. Spanswick, M.J. Nicolls, E.F. Donovan, D. Lummerzheim, and W.W. Liu, "Multi-instrument observations of soft electron precipitation and its association with magnetospheric flows," *J. Geophys. Res.*, 116, A06201, doi:10.1029/2010JA015867, 2011.
- Lyons, L.R., T. Nishimura, H.-J. Kim, E.F. Donovan, V. Angelopoulos, G.J. Sofko, M.J. Nicolls, C.J. Heinselman, J.M. Ruohoniemi, and N. Nishitani, "Possible connection of polar cap flows to pre- and post-substorm onset PBIs and streamers," *J. Geophys. Res.*, doi:10.1029/2011JA016850, 2011.
- Mella, M.R., K.A. Lynch, D.L. Hampton, H. Dahlgren, P.M. Kintner, M. Lessard, D. Lummerzheim, E.T. Lundberg, M.J. Nicolls, and H.C. Stenbaek-Nielsen, "Sounding rocket study of two sequential auroral poleward boundary intensifications," *J. Geophys. Res.*, doi:10.1029/2011JA016428, 2011.
- Sojka, J.J., M. Nicolls, A. van Eyken, C. Heinselman, and D. Bilitza, "24/7 Solar minimum polar cap and auroral ion temperature observations," *Adv. Space Res.*, 48, doi:10.1016/j.asr.2011.03.005, 2011.
- Varney, R.H., M.C. Kelley, M.J. Nicolls, C.J. Heinselman and R.L. Collins, "The electron density dependence of polar mesospheric summer echoes," *J. Atmos. Solar-Terr. Phys.*, 73, doi:10.1016/j.jastp.2010.07.020, 2011.
- Zou, S., M. Moldwin, A. Coster, L. Lyons, and M. Nicolls, "GPS TEC observations of dynamics of the mid-latitude trough during substorms," *Geophys. Res. Lett.*, 38, L14109, doi:10.1029/2011GL048178, 2011.

## 2010

- Bahcivan, H., R.T. Tsunoda, M.J. Nicolls and C.J. Heinselman, "Initial ionospheric observations made by the new Resolute incoherent scatter radar and comparison to solar wind IMF," *Geophys. Res. Lett.*, 37, L15103, doi:10.1029/2010GL043632, 2010.
- Butler, T.W., J. Semeter, C.J. Heinselman and M.J. Nicolls, "Imaging *F* region drifts using monostatic phased-array incoherent scatter radar," *Radio Sci.*, 45, RS5013, doi:10.1029/2010RS004364, 2010.
- Conde, M.G. and M.J. Nicolls, "Thermospheric temperatures above Poker Flat, Alaska, during the stratospheric warming event of January and February 2009," *J. Geophys. Res.*, 115, D00N05, doi:10.1029/2010JD014280, 2010.
- Cosgrove, R.B., M.J. Nicolls, H. Dahlgren, S. Ranjan, E. Sanchez and R.A. Doe, "Radar detection of a localized 1.4 Hz pulsation in auroral plasma, simultaneous with pulsating optical emissions, during a substorm," *Ann. Geophys.*, 28, 1961-1979, doi:10.5194/angeo-28-1961-2010, 2010.
- Kelley, M.C., M.J. Nicolls, R.H. Varney, R.L. Collins, R. Doe, J. Plane, J. Thayer, M. Taylor, B. Thurairajah and K. Mizutani, "Radar, lidar, and optical observations in the polar summer mesosphere shortly after a space shuttle launch," *J. Geophys. Res.*, 115, A05304, doi:10.1029/2009JA014938, 2010.
- Lyons, L.R., Y. Nishimura, Y. Shi, S. Zou, H.-J. Kim, V. Angelopoulos, C. Heinselman, M.J. Nicolls and K.-H. Fornacon, "Substorm triggering by new plasma intrusion: Incoherent-scatter radar observations," *J. Geophys. Res.*, 115, A07223, doi:10.1029/2009JA015168, 2010.
- Michell, R.G., "Simultaneous optical and radar measurements of meteors using the Poker Flat incoherent scatter radar," *J. Atmos. Solar-Terr. Phys.*, 72 (2010), 1212-1220, doi:10/1016/j.jastp.2010.08.001, 2010.
- Michell, R.G. and M. Samara, "High resolution observations of naturally enhanced ion acoustic lines and accompanying auroral fine structures," *J. Geophys. Res.*, 115, A03310, doi:10.1029/2009JA014661, 2010.
- Nicolls, M.J., R.H. Varney, S.L. Vadas, P. Stamus, C.J. Heinselman, R.B. Cosgrove, M.C. Kelley, "Influence of an inertia-gravity wave on mesospheric dynamics: A case study with the Poker Flat Incoherent Scatter Radar," *J. Geophys. Res.*, 115, D00N02, doi:10.1029/2010JD014042, 2010.
- Nishimura, Y., L.R. Lyons, S. Zou, X. Xing, V. Angelopoulos, S.B. Mende, J.W. Bonnell, D. Larson, U. Auster, T. Hori, N. Nishitani, K. Hosokawa, G. Sofko, M. Nicolls, C. Heinselman, "Preonset time sequence of auroral substorms: Coordinated observations by all-sky imagers, satellites, and radars," *J. Geophys. Res.*, 115, A00I08, doi:10.1029/2010JA015832, 2010.
- Samara, M. and R.G. Michell, "Ground-based observations of diffuse auroral frequencies in the context of whistler mode chorus," *J. Geophys. Res.*, A00F18, doi:10.1029/2009JA014852, 2010.

- Semeter, J., T. Butler, M. Zettergren, C. Heinselman, and M. Nicolls, "Composite imaging of auroral forms and convective flows during a substorm cycle," *J. Geophys. Res.*, 115, A08308, doi:10.1029/2009JA014931, 2010.
- Singer, H.J., "Editor's Choice: Solar wind streams heat Earth's ionosphere," *Space Weather Quarterly*, Vol 7, Issue 1, p6, 2010.
- Sparks, J.J., D. Janches, M.J. Nicolls, and C.J. Heinselman, "Determination of physical and radiant meteor properties using PFISR interferometry measurements of head echoes," *J. Atmos. Solar-Terr. Phys.*, 72, 16, 1221-1231, doi:10.1016/j.jastp.2010.08.04, 2010.
- Zhang, S.-R., J.M. Holt, A.P. van Eyken, C. Heinselman, and M. McCready, "IPY observations of ionospheric yearly variations from high to middle latitude incoherent scatter radars," *J. Geophys. Res.*, 115, A03303, doi:10.1029/2009JA014327, 2010.
- Zou, S., M.B. Moldwin, L.R. Lyons, Y. Nishimura, M. Hirahara, T. Sakanoi, K. Asamura, M.J. Nicolls, Y. Miyashita, S.B. Mende, C.J. Heinselman, "Identification of substorm onset location and preonset sequence using Reimei, THEMIS GBO, PFISR and Geotail," *J. Geophys. Res.*, 115, A12309, doi:10.1029/2010JA015520, 2010.

## 2009

- Bahcivan, H., M.C. Kelley, J.W. Cutler, "Radar and rocket comparison of UHF radar scattering from auroral electrojet irregularities: Implications for a nanosatellite radar," *J. Geophys. Res.*, 114, A06309, doi:10.1029/2009JA014132, 2009.
- Chau, J.L., F.R. Galindo, C.J. Heinselman, and M.J. Nicolls, "Meteor-head echo observations using an antenna compression approach with the 450 MHz Poker Flat Incoherent Scatter Radar," *J. Atmos. Solar-Terr. Phys.*, doi:10.1016/j.jastp.2008.08.007, 2009.
- Fentzke, J.T., D. Janches, and J.J. Sparks, "Latitudinal and season variability of the micrometeor input function: A study using model predictions and observations from Arecibo and PFISR," *J. Atmos. Solar-Terr. Phys.*, 71 (6), 644-652, doi:10.1016/j.jastp.2008.07.015, 2009.
- Hysell, D.L., G. Michhue, M.J. Nicolls, C.J. Heinselman, and M.F. Larsen, "Assessing auroral electric field variance with coherent and incoherent scatter radar," *J. Atmos. Solar-Terr. Phys.*, doi:10.1016/j.jastp.2008.10.013, 2009.
- Janches, D., D.C. Fritts, M.J. Nicolls, and C.J. Heinselman, "Observations of D-region structure and atmospheric tides with PFISR during active aurora," *J. Atmos. Solar-Terr. Phys.*, doi:10.1016/j.jastp.2008.08.015, 2009.
- Jones, S.L., M.R. Lessard, P.A. Fernandes, D. Lummerzheim, J.L. Semeter, C.J. Heinselman, K.A. Lynch, R.G. Michell, P.M. Kintner, H.C. Stenbaek-Nielsen, and K. Asamura, "PFISR and ROPA observations of pulsating aurora," *J. Atmos. Solar-Terr. Phys.*, doi:10.1016/j.jastp.2008.10.004, 2009.
- Kelly, J., and C. Heinselman, "Initial results from Poker Flat incoherent scatter radar (PFISR)," *J. Atmos. Solar-Terr. Phys.*, doi:10.1016/j.jastp.2009.01.009, 2009.

- Kosch, M.J., B. Gustavsson, C. Heinselman, T. Pedersen, M.T. Rietveld, J. Spaleta, A. Wong, W. Wang, C. Mutiso, B. Bristow, and J. Hughes, "First incoherent scatter radar observations of ionospheric heating on the second electron gyro-harmonic," *J. Atmos. Solar-Terr. Phys.*, doi:10.1016/j.jastp.2009.08.007, 2009.
- Livneh, D.J., I. Seker, F.T. Djuth, and J.D. Mathews, "Omnipresent vertically coherent fluctuations in the ionosphere with a possible worldwide-midlatitude extent," *J. Geophys. Res.*, 114, A06303, doi:10.1029/2008JA013999, 2009.
- Lyons, L.R., H.-J. Kim, X. Xing, S. Zou, D.-Y. Lee, C.J. Heinselman, M.J. Nicolls, V. Angelopoulos, D. Larson, J. McFadden, A. Runov, and K.-H. Fornacon, "Evidence that solar wind fluctuations substantially affect global convection and substorm occurrence," *J. Geophys. Res.*, 114, A11306, doi:10.1029/2009JA014281, 2009.
- Lyons, L.R., S. Zou, C.J. Heinselman, M.J. Nicolls, and P.C. Anderson, "Poker Flat radar observations of the magnetosphere-ionosphere coupling electrodynamic of the earthward penetrating plasma sheet following convection enhancements," *J. Atmos. Solar-Terr. Phys.*, doi:10.1016/j.jastp.2008.09.025, 2009.
- Michell, R.G., K.A. Lynch, C.J. Heinselman, and H.C. Stenbaek-Nielsen, "High time resolution PFISR and optical observations of naturally enhanced ion acoustic lines," *Ann. Geophys.*, 27, 1457–1467, 2009.
- Nicolls, M.J., M.C. Kelley, R.H. Varney, and C.J. Heinselman, "Spectral observations of polar mesospheric summer echoes at 33 cm (450 MHz) with the Poker Flat Incoherent Scatter Radar," *J. Atmos. Solar-Terr. Phys.*, doi:10.1016/j.jastp.2008.04.019, 2009.
- Richards, P.G., M.J. Nicolls, C.J. Heinselman, J.J. Sojka, J.M. Holt, and R.R. Meier, "Measured and modeled ionospheric densities, temperatures, and winds during the International Polar Year," *J. Geophys. Res.*, 114, A12317, doi:10.1029/2009JA014625, 2009.
- Roy, A., S.J. Briczinski, J.F. Doherty, and J.D. Mathews, "Genetic-algorithm-based parameter estimation technique for fragmenting radar meteor head echoes," *IEEE Geosci. Remote Sens. Lett.*, doi:10.1109/LGRS.2009.2013878, 2009.
- Sangalli, L., D.J. Knudsen, M.F. Larsen, T. Zhan, R.F. Pfaff, and D. Rowland, "Rocket-based measurements of ion velocity, neutral wind, and electric field in the collisional transition region of the auroral ionosphere," *J. Geophys. Res.*, 114, A04306, doi:10.1029/2008JA013757, 2009.
- Semeter, J., T. Butler, C. Heinselman, M. Nicolls, J. Kelly, and D. Hampton, "Volumetric imaging of the auroral ionosphere: Initial results from PFISR," *J. Atmos. Solar-Terr. Phys.*, 71, 738–743, doi:10.1016/j.jastp.2008.08.014, 2009.
- Sojka, J.J., R.L. McPherron, A.P. van Eyken, M.J. Nicolls, C.J. Heinselman, and J.D. Kelly, "Observations of ionospheric heating during the passage of solar coronal hole fast streams," *Geophys. Res. Lett.*, 36, L19105, doi:10.1029/2009GL039064, 2009.
- Sojka, J.J., M.J. Nicolls, C.J. Heinselman, and J.D. Kelly, "The PFISR IPY observations of ionospheric climate and weather," *J. Atmos. Solar-Terr. Phys.*, doi:10.1016/j.jastp.2009.01.001, 2009.

- Sparks, J.J., and D. Janches, "Latitudinal dependence of the variability of the micrometeor altitude distribution," *Geophys. Res. Lett.*, 36, L12105, doi:10.1029/2009GL038485, 2009.
- Sparks, J. J., and D. Janches, "Correction to 'Latitudinal dependence of the variability of the micrometeor altitude distribution'," *Geophys. Res. Lett.*, 36, L17101, doi:10.1029/2009GL039987, 2009.
- Sparks, J.J., D. Janches, M.J. Nicolls, and C.J. Heinselman, "Seasonal and diurnal variability of the meteor flux at high latitudes observed using PFISR," *J. Atmos. Solar-Terr. Phys.*, doi:10.1016/j.jastp.2008.08.009, 2009.
- Taylor, M.J., Y. Zhao, P.-D. Pautet, M.J. Nicolls, R.L. Collins, J. Baker-Tvedtness, C.D. Burton, B. Thurairajah, J. Reimuller, R.H. Varney, C.J. Heinselman, and K. Mizutani, "Coordinated optical and radar image measurements of noctilucent clouds and polar mesospheric summer echoes," *J. Atmos. Solar-Terr. Phys.*, doi:10.1016/j.jastp.2008.12.005, 2009.
- Vadas, S.L. and M.J. Nicolls, "Temporal evolution of neutral, thermospheric winds and plasma response using PFISR measurements of gravity waves," *J. Atmos. Solar-Terr. Phys.*, doi:10.1016/j.jastp.2009.01.011, 2009.
- Varney, R.H., M.J. Nicolls, C.J. Heinselman, and M.C. Kelley, "Observations of polar mesospheric summer echoes using PFISR during the summer of 2007," *J. Atmos. Solar-Terr. Phys.*, 71, p.470–476, doi:10.1016/j.jastp.2009.01.002, 2009.
- Zou, S., L.R. Lyons, M.J. Nicolls, and C.J. Heinselman, "PFISR observations of strong azimuthal flow bursts in the ionosphere and their relation to nightside aurora," *J. Atmos. Solar-Terr. Phys.*, doi:10.1016/j.jastp.2008.06.015, 2009.
- Zou S., L.R. Lyons, M.J. Nicolls, C.J. Heinselman, and S.B. Mende, "Nightside ionospheric electrodynamic associated with substorms: PFISR and THEMIS ASI observations," *J. Geophys. Res.*, 114, A12301, doi:10.1029/2009JA014259, 2009.

## 2008

- Gustavsson, B., M. Kosch, A. Wong, T. Pedersen, C. Heinselman, C. Mutiso, B. Bristow, J. Hughes and W. Wang, "First estimates of volume distribution of HF-pump enhanced emissions at 6300 and 5577 Å: a comparison between observations and theory," *Ann. Geophys.*, 26, 3999–4012, 2008.
- Heinselman, C.J., M.J. Nicolls, "A Bayesian approach to electric field and *E*-region neutral wind estimation with the Poker Flat Advanced Modular Incoherent Scatter Radar," *Radio Sci.*, 43, RS5013, doi:10.1029/2007RS003805, 2008.
- Hysell, D.L., G. Michhue, M.F. Larsen, R. Pfaff, M.J. Nicolls, C.J. Heinselman, and H. Bahcivan, "Imaging radar observations of Farley Buneman waves during the JOULE II experiment," *Ann. Geophys.*, 26, 1837–1850, 2008.
- Kagan, L.M., R.S. Kissack, M.C. Kelley, and R. Cuevas, "Unexpected rapid decrease in phase velocity of submeter Farley-Buneman waves with altitude," *Geophys. Res. Lett.*, 36, L03106, doi:10.1029/2007GL032459, 2008.

- Kelley, M.C., R.A. Cuevas, and D.L. Hysell, "Radar scatter from equatorial electrojet waves: An explanation for the constancy of the Type I Doppler shift with zenith angle," *Geophys. Res. Lett.*, 35, L04106, doi:10.1029/2007GL032848, 2008.
- Michell, R.G., K.A. Lynch, C.J. Heinselman, and H.C. Stenbaek-Nielsen, "PFISR nightside observations of naturally enhanced ion acoustic lines and their relation to boundary auroral features," *Ann. Geophys.*, 26, 3623–3639, 2008.
- Sandahl, I., T. Sergienko, U. Brändström, "Fine structure of optical aurora," *J. Atmos. Solar-Terr. Phys.*, 70, 18, 2275-2292, doi:10.1016/j.jastp.2008.08.016, 2008.
- Vadas, S.L., M.J. Nicolls, "Using PFISR measurements and gravity wave dissipative theory to determine the neutral, background thermospheric winds," *Geophys. Res. Lett.*, 35, L02105, doi:10.1029/2007GL031522, 2008.

## 2007

- Hysell, D.L., J. Drexler, E.B. Shume, J.L. Chau, D.E. Scipion, M. Vlasov, R. Cuevas, C. Heinselman, "Combined radar observations of equatorial electrojet irregularities at Jicamarca," *Ann. Geophys.*, 25, 457–473, 2007.
- Kosch, M.J., T. Pedersen, E. Mishin, S. Oyama, J. Hughes, A. Senior, B. Watkins, B. Bristow, "Coordinated optical and radar observations of ionospheric pumping for a frequency pass through the second electron gyroharmonic at HAARP," *J. Geophys. Res.*, 112, A06325, doi:10.1029/2006JA012146, 2007.
- Kosch, M.J., T. Pedersen, E. Mishin, M. Starks, E. Gerken-Kendall, D. Sentman, S. Oyama, B. Watkins, "Temporal evolution of pump beam self-focusing at the High-Frequency Active Auroral Research Program," *J. Geophys. Res.*, 112, A08304, doi:10.1029/2007JA012264, 2007.
- Mathews, J.D., S.J. Briczinski, D.D. Meisel, C.J. Heinselman, "Radio and meteor science outcomes from comparisons of meteor radar observations at AMISR Poker Flat, Sondrestrom, and Arecibo," *Earth Moon Planet*, doi:10.1007/s11038-007-9168-0, 2007.
- Nicolls, M.J., C.J. Heinselman, E.A. Hope, S. Ranjan, M.C. Kelley, J.D. Kelly, "Imaging of polar mesosphere summer echoes with the 450 MHz Poker Flat Advanced Modular Incoherent Scatter Radar," *Geophys. Res. Lett.*, 34, L20102, doi:10.1029/2007GL031476, 2007.
- Nicolls, M.J., C.J. Heinselman, "Three-dimensional measurements of traveling ionospheric disturbances with the Poker Flat Incoherent Scatter Radar," *Geophys. Res. Lett.*, 34, L21104, doi:10.1029/2007GL031506, 2007.
- Vlasov, M.N., M.C. Kelley, and D.L. Hysell, "Eddy turbulence parameters inferred from radar observations at Jicamarca," *Ann. Geophys.*, 25, 475-481, doi:10.5194/angeo-25-475-2007, 2007.

## 2006

Oyama, S., B.J. Watkins, F.T. Djuth, M.J. Kosch, P.A. Bernhardt, C.J. Heinselman, "Persistent enhancement of the HF pump-induced plasma line measured with a UHF diagnostic radar at HAARP," *J. Geophys. Res.*, 111, A06309, doi:10.1029/2005JA011363, 2006.