

## GRAPE-LIST OF PUBLICATIONS 2012-2017

### 2012

- Deshpande, K. B., G. S. Bust, C. R. Clauer, H. Kim, J. E. Macon, T. E. Humphreys, J. A. Bhatti, S. B. Musko, G. Crowley, and A. T. Weatherwax (2012), Initial GPS scintillation results from CASES receiver at South Pole, Antarctica, *Radio Sci.*, 47, RS5009, doi:10.1029/2012RS005061.
- Moro, J., Denardini, C.M., Abdu, M.A., Correia, E., Schuch, N.J., MAKITA, K. Correlation between the cosmic noise absorption calculated from the SARINET data and the energetic particles measured by MEPED: Simultaneous observations over SAMA region. *Advances in Space Research.* , v.51, p.1692 - 1700, 2012.
- Moro, J., Denardini, C.M., Correia, E., Abdu, M.A., Schuch, N.J., MAKITA, K. A comparison of two different techniques for deriving the quiet day curve from SARINET riometer data. *Annales Geophysicae (Berlin).* , v.30, p.1159 - 1168, 2012.
- Moro, J., C. M. Denardini, M. A. Abdu, E. Correia, N. J. Schuch, and K. Makita (2012), Latitudinal dependence of cosmic noise absorption in the ionosphere over the SAMA region during the September 2008 magnetic storm, *J. Geophys. Res.*, 117, A06311, doi:10.1029/2011JA017405.
- Jayachandran, P. T., K. Hosokawa, K. Shiokawa, Y. Otsuka, C. J. Watson, S. C. Mushini, J. W. MacDougall, P. Prikryl, R. Chadwick, and T. D. Kelly (2012), GPS Total Electron Content Variations Associated with Poleward Moving Sun Aligned Arcs, *J. Geophys. Res.*, doi:10.1029/2011JA017423
- Kinrade, J., C. N. Mitchell, P. Yin, N. Smith, M. J. Jarvis, D. J. Maxfield, M. C. Rose, G. S. Bust, and A. T. Weatherwax (2012), Ionospheric scintillation over Antarctica during the storm of 5–6 April 2010, *J. Geophys. Res.*, 117, A05304, doi:10.1029/2011JA017073.
- Prikryl, P., P. T. Jayachandran, S. C. Mushini, and I. G. Richardson (2012), Toward the probabilistic forecasting of high-latitude GPS phase scintillation, *Space Weather*, 10, S08005, doi:10.1029/2012SW000800.

### 2013

- De Franceschi Giorgiana and Candidi Maurizio, GRAPE, GNSS Research and Application for Polar Environment, Expert Group of SCAR. *Annals of Geophysics, Special Issue, Vol. 56, No2 (2013), ISSN 2037-416X.* <http://www.annalsofgeophysics.eu/index.php/annals/issue/view/488>.
- Prikryl, P., Ghoddousi-Fard, R., Kunduri, B. S. R., Thomas, E. G., Coster, A. J., Jayachandran, P. T., Spanswick, E., and Danskin, D. W.: GPS phase scintillation and proxy

index at high latitudes during a moderate geomagnetic storm, *Ann. Geophys.*, 31, 805-816, doi:10.5194/angeo-31-805-2013, 2013.

- Prikryl, P., Y. Zhang, Y. Ebihara, R. Ghoddousi-Fard, P. T. Jayachandran, J. Kinrade, C. N. Mitchell, A. T. Weatherwax, G. Bust, P. J. Cilliers, L. Spogli, L. Alfonsi, G. De Franceschi, V. Romano, B. Ning, G. Li, M. J. Jarvis, D. W. Danskin, E. Spanswick, E. Donovan and M. Terkildsen, An interhemispheric comparison of GPS phase scintillation with auroral emission observed at South Pole and from DMSP satellite, Special Issue of *Annals of Geophysics*, 56, 2, 2013, R0216; doi:10.4401/ag-6227.
- Prikryl, P. V. Sreeja, M. Aquino, and P. T. Jayachandran, Probabilistic forecasting of ionospheric scintillation and GNSS receiver signal tracking performance at high latitudes, Special Issue of *Annals of Geophysics*, 56, 2, 2013, R0222; doi:10.4401/ag-6219.
- Sarti P., Negusini M., Tomasi C., Petkov B., Capra A. (2013). Thirteen years of integrated precipitable water derived by GPS at Mario Zucchelli Station, Antarctica. *Annals of Geophysics*, Special Issue, 56, 2, 2013. ISSN: 2037-416X. doi: 10.4401/ag-6228
- Correia, E., Paz, A. J., Gende, M.A. Characterization of GPS-TEC in Antarctica from 2004 to 2011. *Annals of Geophysics.* , v.56, p.R0217-1 - R0217-5, 2013.
- Fernandez, José Henrique, Correia, E. Electron precipitation events in the lower ionosphere and the geospace conditions. *Annals of Geophysics.* , v.56, p.R0218-1 - R0218-10, 2013.
- Spogli, L., Alfonsi, L., Cilliers, P., Correia, E., De Franceschi, G., Mitchell, C.N., Romano, V., Kinrade, J., Cabrera, M. A. GPS scintillations and TEC climatology in the southern low, middle and high 2 latitude regions. *Annals of Geophysics.* , v.56, p.R0220-1 - R0220-12, 2013.
- Correia, E., Raulin, J. P., Kaufmann, P., Bertoni, F. C., Quevedo, M.T. Inter-hemispheric analysis of daytime low ionosphere behavior from 2007 to 2011. *Journal of Atmospheric and Solar-Terrestrial Physics.* , v.92, p.51 - 58, 2013.
- Correia, E., Raulin, J. P., Kaufmann, P., Gavilán, H. R. Atmospheric changes observed in antarctica related to the sun-earth interactions. *Annual Activity Report - INCT-APA.* , v.3, p.20 - 25, 2013.
- Correia, E., Makhmutov, Vladimir S, Raulin, Jean Pierre, Makita, K. Mid- and low-latitude response of the lower ionosphere to solar proton events on January 2012. *IOP Conference Series. Earth and Environmental Science (Online).* , v.409, p.1/012186 - 4, 2013.

## 2014

- Koustov, A. V., P. V. Ponomarenko, M. Ghezelbash, D. R. Themens, and P. T. Jayachandran (2014), Electron density and electric field over Resolute Bay and F region ionospheric echo detection with the Rankin Inlet and Inuvik SuperDARN radars, *Radio Sci.*, 49, doi:10.1002/2014RS005579.

- Prikryl P., Jayachandran P. T., Mushini S. C., Richardson I. G., High-latitude GPS phase scintillation and cycle slips during high speed solar wind streams and interplanetary coronal mass ejections: A superposed epoch analysis, *Earth, Planets and Space*, **66** :62, 2014.
- Raulin, Jean Pierre, Trottet, Gerard, Gimenez de Castro, C. G., Correia, E., Macotela, E. L. Nighttime Sensitivity of Ionospheric VLF Measurements to X-ray Bursts From a Remote Cosmic Source. *Journal of Geophysical Research: Space Physics.*, 2014. DOI:10.1002/2013JA019670
- Ghezlbash, M., A. Koustov, D.R. Themens, and P.T. Jayachandran (2014). Seasonal and diurnal variations of PolarDARN F region echo occurrence in the polar cap and their causes, *J. Geophys. Res. Space Physics*, 119, 10,426–10,439, doi:10.1002/2014JA020726.
- Themens, D. R., P. T. Jayachandran, M. J. Nicolls, and J. W. MacDougall (2014), A top to bottom evaluation of IRI 2007 within the polar cap, *J. Geophys. Res. Space Physics*, 119, 6689–6703, doi:10.1002/2014JA020052.

## 2015

- Athieno, R., P.T. Jayachandran, D.R. Themens, and D.W. Danskin (2015), Comparison of observed and predicted MUF(3000)F2 in the Polar cap region , *Radio Sci.*, 50, 509–517. doi:10.1002/2015RS005725.
- Prikryl, P., Ghoddousi-Fard, R., Spogli, L., Mitchell, C. N., Li, G., Ning, B., Cilliers, P. J., Sreeja, V., Aquino, M., Terkildsen, M., Jayachandran, P. T., Jiao, Y., Morton, Y. T., Ruohoniemi, J. M., Thomas, E. G., Zhang, Y., Weatherwax, A. T., Alfonsi, L., De Franceschi, G., and Romano, V.: GPS phase scintillation at high latitudes during geomagnetic storms of 7–17 March 2012 – Part 2: Interhemispheric comparison, *Ann. Geophys.*, 33, 657-670, doi:10.5194/angeo-33-657-2015, 2015.
- Linty, N., Romero, R., Dovis, F., & Alfonsi, L. (2015, May). Benefits of GNSS software receivers for ionospheric monitoring at high latitudes. In *Radio Science Conference (URSI AT-RASC), 2015 1st URSI Atlantic* (pp. 1-6). IEEE. doi: [10.1109/URSI-AT-RASC.2015.7303110](https://doi.org/10.1109/URSI-AT-RASC.2015.7303110)
- Cilliers, P., Alfonsi, L., & Spogli, L. (2015, May). GNSS scintillation climatology at SANAE-IV, Antarctica: 2006 to 2014. In *Radio Science Conference (URSI AT-RASC), 2015 1st URSI Atlantic* (pp. 1-1). IEEE. doi: 10.1109/URSI-AT-RASC.2015.7303100
- Terzo, O., Ruiu, P., Alfonsi, L., Romano, V., & Spogli, L. (2015, May). International cloud infrastructure for space weather data management: The DemoGRAPE challenge. In *Radio Science Conference (URSI AT-RASC), 2015 1st URSI Atlantic* (pp. 1-1). IEEE. doi: 10.1109/URSI-AT-RASC.2015.7303109
- Themens, D. R., P. T. Jayachandran, and R. B. Langley (2015), The nature of GPS differential receiver bias variability: An examination in the polar cap region, *J. Geophys. Res. Space Physics*, 120, 8155–8175, doi:10.1002/2015JA021639

## 2016

- Linty, N., DAVIS, F., Romero, R., Cristodaro, C., Alfonsi, L., Correia, E., "Monitoring Ionosphere Over Antarctica by Means of a GNSS Signal Acquisition System and a Software Radio Receiver," *Proceedings of the 2016 International Technical Meeting of The Institute of Navigation*, Monterey, California, January 2016, pp. 549-555.
- Themens, D.R., and P.T. Jayachandran (2016), Solar Activity Variability in the IRI at high latitudes: Comparisons with GPS Total Electron Content, *J. Geophys. Res. Space Physics*, 121, 3793–3807, doi:10.1002/2016JA022664.
- A. Favenza, N. Linty, F. Davis, "Exploiting Standardized Metadata For GNSS SDR Remote Processing: a Case Study.", *Proceedings of the 29th International Technical Meeting of The Satellite Division of the Institute of Navigation (ION GNSS+ 2016)*, Portland (Oregon), September 2016, pp. 77-85.
- Yamazaki, Y., M. J. Kosch, Y. Ogawa, and D. R. Themens (2016), High-latitude Ion Temperature Climatology during the International Polar Year 2007–2008, *Journal of Space Weather and Space Climate*, 6(2016), A35, <https://doi.org/10.1051/swsc/2016029>.
- Alfonsi, L., Cilliers, P. J., Romano, V., Hunstad, I., Correia, E., Linty, N., ... & Riley, P. (2016). First observations of GNSS ionospheric scintillations from DemoGRAPE project. *Space Weather*, 14(10), 704-709, doi:10.1002/2016SW001488.
- Correia, E., Quevedo, M.T. , Paz, A. J. . ANTARCTIC ATMOSPHERE RESPONSE TO THE SUN-EARTH INTERACTIONS. Annual Activiry Report - INCT-APA, v. x, p. 15-22, 2016.
- Linty, N., Romero, R., Cristodaro, C., Davis, F., Bavaro, M., Curran, J. T., ... & Cilliers, P. (2016, May). Ionospheric scintillation threats to GNSS in polar regions: the DemoGRAPE case study in Antarctica. In *Navigation Conference (ENC), 2016 European* (pp. 1-7). IEEE. doi: 10.1109/EURONAV.2016.7530546
- Linty, N., I. Hunstad, " Installation and configuration of an Ionospheric Scintillation Monitoring Station based on GNSS receivers in Antarctica. RAPPORTI TECNICI INGV, 2016, 354: 1-28. N
- M. Negusini, B. H. Petkov, P. Sarti and C. Tomasi, (May 2016) "Ground-Based Water Vapor Retrieval in Antarctica: An Assessment," in *IEEE Transactions on Geoscience and Remote Sensing*, vol. 54, no. 5, pp. 2935-2948,. doi: 10.1109/TGRS.2015.2509059.
- Pignalberi, A ; Pezzopane, M ; Tozzi, R ; De Michelis, P; Coco, I: Comparison between IRI and preliminary Swarm Langmuir probe measurements during the St. Patrick storm period, *Earth, Planets and Space*, 68, 93, doi: 10.1186/s40623-016-0466-5, 2016.
- Prikryl, P., Ghoddousi-Fard, R., Ruohoniemi, J. M., Thomas, E. G.: GPS phase scintillation at high latitudes during two geomagnetic storms, *Auroral dynamics and space weather*, *Geophysical Monograph Series Vol. 215*, Zhang, Y. and Paxton, L.J. (Editors), American Geophysical Union and John Wiley & Sons, Inc., ISBN 978-1-118-97870-2, 2016.

- Prikryl, P., et al. (2016), GPS phase scintillation at high latitudes during the geomagnetic storm of 17–18 March 2015, *J. Geophys. Res. Space Physics*, 121, doi:10.1002/2016JA023171.
- V. Sreeja (2016), Impact and mitigation of space weather effects on GNSS receiver performance, *Geoscience Letters*, doi: 10.1186/s40562-016-0057-0.

## 2017

- Cilliers, P., L. Alfonsi, L. Spogli, G. De Franceschi, V. Romano, I. Hunstad, N. Linty, O. Terzo, F. Dovis, J. Ward, C. Cesaroni and J.A.E. Stephenson (2017), Analysis of the ionospheric scintillations during 20-21 January 2015 from SANAE by means of the DemoGRAPE scintillation receivers, Proceedings of URSI GASS, Montreal 19-26 August 2017, in publications on IEEE Xplore Summary Papers.
- Correia, E., L. Spogli, L. Alfonsi, C. Cesaroni, A. Gulisano, E. Thomas, R. Ramirez, and Alexandre Rodel. Ionospheric Response to the 26 September 2011 Geomagnetic Storm In Antarctica. *Annales Geophysicae*. 2017 Submitted
- Drews R., Pattyn F., Hewitt I. J., Matsuoka K., Helm V., Berger S., Bergeot N., Favier L., Actively evolving subglacial conduits and eskers initiate ice shelf channels at an Antarctic grounding line, *Nature Communications*, 8, 10.1038/ncomms15228, 2017.
- G. Giordanengo, L. Pilosu, L. Mossucca, F. Renga, S. Ciccina, O. Terzo, G. Vecchi, V. Romano, and I. Hunstad, “Energy Efficient System for Environment Observation”, the 11th International Conference on Complex, Intelligent, and Software Intensive Systems - CISIS, 07/2017, accepted for publication.
- L. Mossucca, L. Pilosu, P. Ruiu, G. Giordanengo, S. Ciccina, G. Vecchi, O. Terzo, V. Romano, L. Spogli, C. Cesaroni, I. Hunstad, and A. Serratore, "Greenlab: autonomous low power system extending multi-constellation GNSS acquisition in Antarctica”, Proceedings of URSI GASS, Montreal 19-26 August 2017, in publications on IEEE Xplore Summary Papers.
- Pattyn F., Bruyninx C., Tison J.-L., Bergeot N., Favier L., van Dam T., Drews R., Callens D., Philippe M., Matsuoka K. and Hubbard B., Constraining ice mass changes in coastal draining Maud Land, Antarctica (ICECON), final report Brussels : Belgian Science Policy 2009, 2017.
- R. Romero, N. Linty, C. Calogero, F. Dovis and L. Alfonsi (2017, January), “On the Use and Performance of new Galileo signals for Ionospheric Scintillation Monitoring over Antarctica”, Proceedings of ION ITM 2017, Monterey (CA), January 2017, pp.989-997, <https://www.ion.org/publications/abstract.cfm?articleID=14942>