

Peer-reviewed publications

1. Günzkofer F.L., H. Liu, G. Stober, **D. Pokhotelov**, and C. Borries, Evaluation of the empirical scaling factor of Joule heating rates in TIE-GCM with EISCAT measurements, *Earth and Space Sci.*, 11(4), e2023EA003447, doi:10.1029/2023EA003447, 2024.
2. Chum, J., P. K. Knizova, V. Barta, C. Arras, **D. Pokhotelov**, E. Becker, C. Jacobi, H.-L. Liu, H. Liu, G. Stober, eds., Vertical coupling in the atmosphere - ionosphere - magnetosphere system (e-book), Lausanne: *Frontiers Media SA*, doi:10.3389/978-2-8325-4379-5, 2024.
3. Barta, V., J. Chum, H.-L. Liu, **D. Pokhotelov**, and G. Stober, Editorial for the Special Issue: Vertical coupling in the atmosphere - ionosphere - magnetosphere system, *Front. Astron. Space Sci. - Space Physics*, doi:10.3389/fspas.2023.1359458, 2024.
4. Günzkofer F.L., G. Stober, **D. Pokhotelov**, Y. Miyoshi, and C. Borries, Difference spectrum fitting of the ion-neutral collision frequency from dual-frequency EISCAT measurements, *Atmos. Mes. Tech.*, 16, 5897-5907, doi:10.5194/amt-16-5897-2023, 2023.
5. Günzkofer F.L., **D. Pokhotelov**, G. Stober, I. Mann, S. L. Vadas, E. Becker, A. Tjulin, A. Kozlovsky, M. Tsutsumi, N. Gulbrandsen, S. Nozawa, M. Lester, E. Belova, J. Kero, N. J. Mitchell, and C. Borries, Inferring neutral winds in the ionospheric transition region from AGW-TID observations with the EISCAT VHF radar and the Nordic Meteor Radar Cluster, *Ann. Geophys.*, 41, 409-428, doi:10.5194/angeo-41-409-2023, 2023.
6. Stober, G., R. Weryk, D. Janches, E.C.M. Dawkins, F.L. Günzkofer, J. L. Hormaechea, and **D. Pokhotelov**, Polarization dependency of transverse scattering and collisional coupling to the ambient atmosphere from meteor trails - theory and observations, *Planetary and Space Sci.*, 105768, doi:10.1016/j.pss.2023.105768, 2023
7. Günzkofer, F.L., **D. Pokhotelov**, G. Stober, H. Liu, H.-L. Liu, N. J., Mitchell, A. Tjulin, and C. Borries, Determining the origin of tidal oscillations in the ionospheric transition region with EISCAT radar and global simulation data, *J. Geophys. Res.*, 127, e2022JA030861, doi:10.1029/2022JA030861, 2022.
8. Stober, G., A. Kuchar, **D. Pokhotelov**, H.-L. Liu, H. Schmidt, C. Jacobi, K. Baumgarten, P. Brown, D. Janches, D. Murphy, A. Kozlovsky, E. Belova, and J. Kero, Interhemispheric differences of mesosphere/lower thermosphere winds and tides investigated from three whole atmosphere models and meteor radar observations, *Atmos. Chem. Phys.*, 21, 13855–13902, doi:10.5194/acp-21-13855-2021, 2021.
9. **Pokhotelov, D.**, I. Fernandez-Gomez, and C. Borries, Polar tongue of ionisation during geomagnetic superstorm, *Ann. Geophys.*, 39, 833–847, doi:10.5194/angeo-39-833-2021, 2021.
10. **Pokhotelov, D.**, G. Stober, and J. L. Chau, Statistical climatology of mid-latitude mesospheric summer echoes characterised by OSWIN radar observations, *Atmos. Chem. Phys.*, 19, 5251-5258, doi:10.5194/acp-19-5251-2019, 2019.
11. **Pokhotelov, D.**, E. Becker, G. Stober, and J. L. Chau, Seasonal variability of atmospheric tides in the mesosphere and lower thermosphere: meteor radar data and simulations, *Ann. Geophys.*, 36, 825-830, doi:10.5194/angeo-36-825-2018, 2018.
12. **Pokhotelov, D.**, I. J. Rae, K. R. Murphy, I. R. Mann, and L. Ozeke, Effects of ULF wave power on relativistic radiation belt electrons: 8–9 October 2012 geomagnetic storm, *J. Geophys. Res.*, 121, 11,766-11,779, doi:10.1002/2016JA023130, 2016.

13. Yao, Z., A. N. Fazakerley, A. Varsani, I. J. Rae, C. J. Owen, **D. Pokhotelov**, C. Forsyth, R. L. Guo, S. C. Bai, S. T. Yao, and N. Doss, Substructures within a dipolarization front revealed by high-temporal resolution Cluster observations, *J. Geophys. Res.*, 121, 5185–5202, doi:10.1002/2015JA022238, 2016.
14. Yao, S. T., Q. Q. Shi, Z. Y. Li, X. G. Wang, A. M. Tian, W. J. Sun, M. Hamrin, M. M. Wang, T. Pitkänen, S. C. Bai, X. C. Shen, X. F. Ji, **D. Pokhotelov**, Z. H. Yao, et al., Propagation of small size magnetic holes in the magnetospheric plasma sheet, *J. Geophys. Res.*, 121, 5510–5519, doi:10.1002/2016JA022741, 2016.
15. **Pokhotelov, D.**, I. J. Rae, K. R. Murphy, and I. R. Mann, The influence of solar wind variability on magnetospheric ULF wave power, *Ann. Geophys.*, 33, 697-701, doi:10.5194/angeo-33-697-2015, 2015.
16. Kempf, Y., **D. Pokhotelov**, O. Gutynska, L. B. Wilson III, B. M. Walsh, S. von Alfthan, O. Hannuksela, D. G. Sibeck, and M. Palmroth, Ion distributions in the Earth's foreshock: Hybrid-Vlasov simulation and THEMIS observations, *J. Geophys. Res.*, 120, doi:10.1002/2014JA020519, 2015.
17. van de Kamp, M., **D. Pokhotelov**, and K. Kauristie, TID characterised using joint effort of incoherent scatter radar and GPS, *Ann. Geophys.*, 32, 1511-1532, doi:10.5194/angeo-32-1511-2014, 2014.
18. von Alfthan, S., **D. Pokhotelov**, Y. Kempf, S. Hoilijoki, I. Honkonen, and M. Palmroth, Vlasiator: First global hybrid-Vlasov simulations of Earth's foreshock and magnetosheath, *J. Atmos. Sol.-Terr. Phys.*, doi:10.1016/j.jastp.2014.08.012, 2014.
19. **Pokhotelov, D.**, S. von Alfthan, Y. Kempf, R. Vainio, H. E. J. Koskinen, and M. Palmroth, Ion distributions upstream and downstream of the Earth's bow shock: first results from Vlasiator, *Ann. Geophys.*, 31, 2207, doi:10.5194/angeo-31-2207-2013, 2013.
20. Kempf, Y., **D. Pokhotelov**, S. von Alfthan, A. Vaivads, M. Palmroth, and H. E. J. Koskinen, Wave dispersion in the hybrid-Vlasov model: verification of Vlasiator, *Phys. Plasmas*, 20, 112114, doi:10.1063/1.4835315, 2013.
21. Palmroth, M., I. Honkonen, A. Sandroos, Y. Kempf, S. von Alfthan, and **D. Pokhotelov**, Preliminary testing of global hybrid-Vlasov simulation: Magnetosheath and cusps under northward interplanetary magnetic field, *J. Atmos. Sol.-Terr. Phys.*, doi:10.1016/j.jastp.2012.09.013, 2013.
22. Mushini, S. C., P. T. Jayachandran, R. B. Langley, J. W. MacDougall, and **D. Pokhotelov**, Improved amplitude and phase scintillation indices derived from wavelet detrended high latitude GPS data, *GPS Solut.*, doi:10.1007/s10291-011-0238-4, 2011.
23. **Pokhotelov, D.**, P. T. Jayachandran, C. N. Mitchell, J. W. MacDougall, and M. H. Denton, GPS tomography in the polar cap: comparison with ionosondes and in-situ spacecraft data, *GPS Solut.*, 15, 79-87, doi:10.1007/s10291-010-0170-z, 2011.
24. Smith N. D., **D. Pokhotelov**, C. N. Mitchell, and C. J. Budd, Image-model coupling: application to an ionospheric storm, *Nonlin. Processes Geophys.*, 17, 361-369, doi:10.5194/npg-17-361-2010, 2010.
25. **Pokhotelov, D.**, P. T. Jayachandran, C. N. Mitchell, and M. H. Denton, High-latitude ionospheric response to CIR- and CME-driven geomagnetic storms revealed by GPS tomography and ionosondes, *Proc. R. Soc. A*, doi:10.1098/rspa.2010.0080, 2010.
26. Prikryl, P., P. T. Jayachandran, S. C. Mushini, **D. Pokhotelov**, J. W. MacDougall., E. Donovan, E. Spanswick, and J.-P. St-Maurice, GPS TEC, Scintillations and cycle slips observed at high latitudes during solar minimum, *Ann. Geophys.*, 28, 1307, doi:10.5194/angeo-28-1307-2010, 2010.
27. **Pokhotelov, D.**, C. N. Mitchell, P. T. Jayachandran, J. W. MacDougall, and M. H. Denton, Ionospheric response to the CIR-driven geomagnetic storm of October 2002, *J. Geophys. Res.*, 114, A12311, doi:10.1029/2009JA014216, 2009.

28. Jayachandran, P. T., R. B. Langley, J. W. MacDougall, S. C. Mushini, **D. Pokhotelov**, A. M. Hamza, I. R. Mann, D. K. Milling, Z. C. Kale, R. Chadwick, T. Kelly, D. W. Danskin, and C. S. Carrano, Canadian High Arctic Ionospheric Network (CHAIN), *Radio Sci.*, 44, RSOA03, doi:10.1029/2008RS004046, 2009.
29. Mitchell, C. N., P. Yin, P. S. J. Spencer, and **D. Pokhotelov**, Ionisation dynamics during storms of the recent solar maximum, in *Midlatitude Ionospheric Dynamics and Disturbances*, edited by P. M. Kintner et al., AGU Geophysical Monograph Series, Vol. 181, pp. 83-90, doi:10.1029/181GM09, 2008.
30. **Pokhotelov, D.**, C. N. Mitchell, P. S. J. Spencer, M. R. Hairston, and R. A. Heelis, Ionospheric storm-time dynamics as seen by GPS tomography and in-situ spacecraft observations, *J. Geophys. Res.*, 113, A00A16, doi:10.1029/2008JA013109, 2008.
31. **Pokhotelov, D.**, F. Lefevre, R. B. Horne, and N. Cornilleau-Wehrlin, Survey of ELF-VLF plasma waves in outer radiation belt observed by Cluster STAFF-SA experiment, *Ann. Geophys.*, 26(11), 3269, doi:10.5194/angeo-26-3269-2008, 2008.
32. Horne, R. B., R. M. Thorne, S. A. Glauert, N. P. Meredith, **D. Pokhotelov**, and O. Santolík, Electron acceleration in the Van Allen radiation belts by fast magnetosonic waves, *Geophys. Res. Lett.*, 34, L17107, doi:10.1029/2007GL030267, 2007.
33. **Pokhotelov, D.**, W. Lotko, and A. Streltsov, Simulations of resonant Alfvén waves generated by artificial HF heating of the auroral ionosphere, *Ann. Geophys.*, 22(8), 2943, doi:10.5194/angeo-22-2943-2004, 2004.
34. **Pokhotelov, D.**, W. Lotko, and A. Streltsov, Harmonic structure of field line eigenmodes generated by ionospheric feedback instability, *J. Geophys. Res.*, 107, 1363, doi:10.1029/2001JA000134, 2002.
35. **Pokhotelov, D.**, W. Lotko, and A. Streltsov, Effects of the seasonal asymmetry in ionospheric Pedersen conductance on the appearance of discrete aurora, *Geophys. Res. Lett.*, 29, 1437, doi:10.1029/2001GL014010, 2002.
36. Pokhotelov, O. A., **D. Pokhotelov**, A. Streltsov, V. Khrushev, and M. Parrot, Dispersive ionospheric Alfvén resonator, *J. Geophys. Res.*, 105(A4), 7737, doi:10.1029/1999JA000480, 2000.
37. Feygin, F. Z., O. A. Pokhotelov, **D. Pokhotelov**, K. Mursula, J. Kangas, T. Bräsy, and R. Kerttula, Effect of heavy ions on ponderomotive forces due to ion cyclotron waves, *J. Geophys. Res.*, 103, 20,481, doi:10.1029/98JA01903, 1998.
38. Feygin, F. Z., O. A. Pokhotelov, **D. Pokhotelov**, T. Bräsy, J. Kangas, and K. Mursula, Exo-plasmaspheric refilling due to ponderomotive forces induced by geomagnetic pulsations, *J. Geophys. Res.*, 102, 4841, doi:10.1029/96JA03430, 1997.
39. Berdichevsky, M. N., and **D. O. Pokhotelov**, Violation of the dispersion relations in a three-dimensional magnetotelluric model, *Izvestiya - Physics of the Solid Earth*, 33(8), 603, 1997.
40. Berdichevsky, M. N., and **D. O. Pokhotelov**, Dispersion relations in terms of a polarized medium, *Izvestiya - Physics of the Solid Earth*, 33(7), 539, 1997.
41. Guglielmi, A. V., V. T. Levshenko, and **D. O. Pokhotelov**, Comparative analysis of dynamic and quasi-static generation mechanisms of seismomagnetic signals, *Izvestiya - Physics of the Solid Earth*, 32(8), 645, 1996.

PhD Thesis

Pokhotelov, D., Effects of the active auroral ionosphere on magnetosphere-ionosphere coupling, Thesis (Ph.D.), Dartmouth College, Source DAI-B 64/03, doi:10.1349/ddlp.3332, 2003.