

# RPF publications 2021

## Peer-reviewed papers

1. Ala-Lahti, M., **Dimmock, A. P.**, Pulkkinen, T. I., Good, S. W., **Yordanova, E.**, Turc, L., & Kilpua, E. K. J., Transmission of an ICME Sheath Into the Earth's Magnetosheath and the Occurrence of Traveling Foreshocks, *Journal of Geophysical Research (Space Physics)*, 126, e29896, doi:10.1029/2021JA029896, 2021.
2. Allen, R. C., Cernuda, I., Pacheco, D., Berger, L., Xu, Z. G., Freiherr von Forstner, J. L., Rodríguez-Pacheco, J., Wimmer-Schweingruber, R. F., Ho, G. C., Mason, G. M., Vines, S. K., **Khotyaintsev, Y.**, Horbury, T., Maksimovic, M., Hadid, L. Z., Volwerk, M., **Dimmock, A. P.**, **Sorriso-Valvo, L.**, **Stergiopoulou, K.**, Andrews, G. B., Angelini, V., Bale, S. D., Boden, S., Böttcher, S. I., Chust, T., Eldrum, S., Espada, P. P., Espinosa Lara, F., Evans, V., Gómez-Herrero, R., Hayes, J. R., Hellín, A. M., Kollhoff, A., Krasnoselskikh, V., Kretzschmar, M., Kühl, P., Kulkarni, S. R., Lees, W. J., Lorfèvre, E., Martin, C., O'Brien, H., Plettemeier, D., Polo, O. R., Prieto, M., Ravanbakhsh, A., Sánchez-Prieto, S., Schlemm, C. E., Seifert, H., Souček, J., Steller, M., Štverák, Š., Terasa, J. C., Trávníček, P., Tyagi, K., Vaivads, A., Vecchio, A., & Yedla, M., Energetic ions in the Venusian system: Insights from the first Solar Orbiter flyby, *Astronomy and Astrophysics*, 656, A7, doi:10.1051/0004-6361/202140803, 2021.
3. **André, M.**, Toledo-Redondo, S., & Yau, A. W., Cold Ionospheric Ions in the Magnetosphere, *Magnetospheres in the Solar System*, 2, 219, doi:10.1002/9781119815624.ch15, 2021.
4. **André, M.**, **Eriksson, A. I.**, **Khotyaintsev, Y. V.**, & Toledo-Redondo, S., The Spacecraft Wake: Interference With Electric Field Observations and a Possibility to Detect Cold Ions, *Journal of Geophysical Research (Space Physics)*, 126, e29493, doi:10.1029/2021JA029493, 2021.
5. Aran, A., Pacheco, D., Laurenza, M., Wijsen, N., Lario, D., Benella, S., Richardson, I. G., Samara, E., Freiherr von Forstner, J. L., Sanahuja, B., Rodriguez, L., Balmaceda, L., Espinosa Lara, F., Gómez-Herrero, R., **Steinvall, K.**, Vecchio, A., Krupar, V., Poedts, S., Allen, R. C., Andrews, G. B., Angelini, V., Berger, L., Berghmans, D., Boden, S., Böttcher, S. I., Carcaboso, F., Cernuda, I., De Marco, R., Eldrum, S., Evans, V., Fedorov, A., Hayes, J., Ho, G. C., Horbury, T. S., Janitzek, N. P., **Khotyaintsev, Y. V.**, Kollhoff, A., Kühl, P., Kulkarni, S. R., Lees, W. J., Louarn, P., Magdalenic, J., Maksimovic, M., Malandraki, O., Martínez, A., Mason, G. M., Martín, C., O'Brien, H., Owen, C., Parra, P., Prieto Mateo, M., Ravanbakhsh, A., Rodríguez-Pacheco, J., Rodríguez Polo, O., Sánchez Prieto, S., Schlemm, C. E., Seifert, H., Terasa, J. C., Tyagi, K., Verbeeck, C., Wimmer-Schweingruber, R. F., Xu, Z. G., Yedla, M. K., & Zhukov, A. N., Evidence for local particle acceleration in the first recurrent galactic cosmic ray depression observed by Solar Orbiter. The ion event on 19 June 2020, *Astronomy and Astrophysics*, 656, L10, doi:10.1051/0004-6361/202140966, 2021.

6. Bergman, S., Stenberg Wieser, G., Wieser, M., **Johansson, F. L., Vigren, E.**, Nilsson, H., Nemeth, Z., **Eriksson, A.**, & Williamson, H., Ion bulk speeds and temperatures in the diamagnetic cavity of comet 67P from RPC-ICA measurements, *Monthly Notices of the Royal Astronomical Society*, 503, 2733, doi:10.1093/mnras/stab584, 2021.
7. Bergman, S., Stenberg Wieser, G., Wieser, M., Nilsson, H., **Vigren, E.**, Beth, A., Masunaga, K., & **Eriksson, A.**, Flow directions of low-energy ions in and around the diamagnetic cavity of comet 67P, *Monthly Notices of the Royal Astronomical Society*, 507, 4900, doi:10.1093/mnras/stab2470, 2021.
8. Berčić, L., Verscharen, D., Owen, C. J., Colombari, L., Kretzschmar, M., Chust, T., Maksimovic, M., Kataria, D. O., Anekallu, C., Behar, E., Berthomier, M., Bruno, R., Fortunato, V., Kelly, C. W., **Khotyaintsev, Y. V.**, Lewis, G. R., Livi, S., Louarn, P., Mele, G., Nicolaou, G., Watson, G., & Wicks, R. T., Whistler instability driven by the sunward electron deficit in the solar wind. High-cadence Solar Orbiter observations, *Astronomy and Astrophysics*, 656, A31, doi:10.1051/0004-6361/202140970, 2021.
9. Birn, J., Runov, A., & **Khotyaintsev, Y.**, Magnetotail Processes, Magnetospheres in the Solar System, 2, 245, doi:10.1002/9781119815624.ch17, 2021.
10. Branduardi-Raymont, G., Berthomier, M., Bogdanova, Y. V., Carter, J. A., Collier, M., **Dimmock, A.**, Dunlop, M., Fear, R. C., Forsyth, C., Hubert, B., Kronberg, E. A., Laundal, K. M., Lester, M., Milan, S., Oksavik, K., Østgaard, N., Palmroth, M., Plaschke, F., Porter, F. S., Rae, I. J., Read, A., Samsonov, A. A., Sembay, S., Shprits, Y., Sibeck, D. G., Walsh, B., & Yamauchi, M., Exploring solar-terrestrial interactions via multiple imaging observers, *Experimental Astronomy*, doi:10.1007/s10686-021-09784-y, 2021.
11. P. Brown, U. Auster, **J.E.S. Bergman, J. Fredriksson.** Y. Kasaba, M. Mansour, A. Pollinger, R. Baughen, **M. Berglund,** D. Hercik, H. Misawa, A. Retino, W. Magnes, B. Cecconi, M.K. Dougherty, G. Fischer, "Meeting the Magnetic EMC Challenges for the In-Situ Field Measurements on the Juice Mission," 2019 ESA Workshop on Aerospace EMC (Aerospace EMC), 2019, pp. 1-6, doi:10.23919/AeroEMC.2019.8788942.
12. Carbone, F., **Sorriso-Valvo, L., Khotyaintsev, Y. V., Steinvall, K., Vecchio, A.,** Telloni, D., **Yordanova, E., Graham, D. B., Edberg, N. J. T., Eriksson, A. I., Johansson, E. P. G.,** Vásconez, C. L., Maksimovic, M., Bruno, R., D'Amicis, R., Bale, S. D., Chust, T., Krasnoselskikh, V., Kretzschmar, M., Lorfèvre, E., Plettemeier, D., Souček, J., Steller, M., Štverák, Š., Trávníček, P., Vaivads, A., Horbury, T. S., O'Brien, H., Angelini, V., & Evans, V., Statistical study of electron density turbulence and ion-cyclotron waves in the inner heliosphere: Solar Orbiter observations, *Astronomy and Astrophysics*, 656, A16, doi:10.1051/0004-6361/202140931, 2021.
13. Carbone, F., Telloni, D., Zank, G., & **Sorriso-Valvo, L.**, Transition to turbulence

in a five-mode Galerkin truncation of two-dimensional magnetohydrodynamics, *Physical Review E*, 104, 025201, doi:10.1103/PhysRevE.104.025201, 2021.

14. Catapano, F., Retinò, A., Zimbardo, G., Alexandrova, A., Cohen, I. J., Turner, D. L., Le Contel, O., Cozzani, G., Perri, S., Greco, A., Breuillard, H., Delcourt, D., Mirioni, L., **Khotyaintsev, Y.**, Vaivads, A., Giles, B. L., Mauk, B. H., Fuselier, S. A., Torbert, R. B., Russell, C. T., Lindqvist, P. A., Ergun, R. E., Moore, T., & Burch, J. L., In Situ Evidence of Ion Acceleration between Consecutive Reconnection Jet Fronts, *The Astrophysical Journal*, 908, 73, doi:10.3847/1538-4357/abce5a, 2021.
15. Chatain, A., **Wahlund, J.-E.**, **Shebanits, O.**, Hadid, L. Z., **Morooka, M.**, **Edberg, N. J. T.**, Guitella, O., & Carrasco, N., Re-Analysis of the Cassini RPWS/LP Data in Titan's Ionosphere: 1. Detection of Several Electron Populations, *Journal of Geophysical Research (Space Physics)*, 126, e28412, doi:10.1029/2020JA028412, 2021.
16. Chatain, A., **Wahlund, J.-E.**, **Shebanits, O.**, Hadid, L. Z., **Morooka, M.**, **Edberg, N. J. T.**, Guitella, O., & Carrasco, N., Re-Analysis of the Cassini RPWS/LP Data in Titan's Ionosphere: 2. Statistics on 57 Flybys, *Journal of Geophysical Research (Space Physics)*, 126, e28413, doi:10.1029/2020JA028413, 2021.
17. Chust, T., Kretschmar, M., **Graham, D. B.**, Le Contel, O., Retinò, A., Alexandrova, A., Berthomier, M., Hadid, L. Z., Sahraoui, F., Jeandet, A., Leroy, P., Pellion, J.-C., Bouzid, V., Katra, B., Piberne, R., **Khotyaintsev, Y. V.**, Vaivads, A., Krasnoselskikh, V., Souček, J., Santolík, O., Lorfèvre, E., Plettemeier, D., Steller, M., Štverák, Š., Trávníček, P., Vecchio, A., Maksimovic, M., Bale, S. D., Horbury, T. S., O'Brien, H., Evans, V., & Angelini, V., Observations of whistler mode waves by Solar Orbiter's RPW Low Frequency Receiver (LFR): In-flight performance and first results, *Astronomy and Astrophysics*, 656, A17, doi:10.1051/0004-6361/202140932, 2021.
18. **Cozzani, G.**, **Khotyaintsev, Y. V.**, **Graham, D. B.**, Egedal, J., **André, M.**, Vaivads, A., Alexandrova, A., Le Contel, O., Nakamura, R., Fuselier, S. A., Russell, C. T., & Burch, J. L., Structure of a Perturbed Magnetic Reconnection Electron Diffusion Region in the Earth's Magnetotail, *Physical Review Letters*, 127, 215101, doi:10.1103/PhysRevLett.127.215101, 2021.
19. D'Amicis, R., Bruno, R., Panasenco, O., Telloni, D., Perrone, D., Marcucci, M. F., Woodham, L., Velli, M., De Marco, R., Jagarlamudi, V., Coco, I., Owen, C., Louarn, P., Livi, S., Horbury, T., André, N., Angelini, V., Evans, V., Fedorov, A., Genot, V., Lavraud, B., Matteini, L., Müller, D., O'Brien, H., Pezzi, O., Rouillard, A. P., **Sorriso-Valvo, L.**, Tenerani, A., Verscharen, D., & Zouganelis, I., First Solar Orbiter observation of the Alfvénic slow wind and identification of its solar source, *Astronomy and Astrophysics*, 656, A21, doi:10.1051/0004-6361/202140938, 2021.
20. **Dimmock, A. P.**, Welling, D. T., Rosenqvist, L., Forsyth, C., Freeman, M. P.,

- Rae, I. J., Viljanen, A., Vandegriff, E., Boynton, R. J., Balikhin, M. A., & **Yordanova, E.**, Modeling the Geomagnetic Response to the September 2017 Space Weather Event Over Fennoscandia Using the Space Weather Modeling Framework: Studying the Impacts of Spatial Resolution, *Space Weather*, 19, e02683, doi:10.1029/2020SW002683, 2021.
21. **Dreyer, J.**, Partamies, N., Whiter, D., Ellingsen, P. G., Baddeley, L., & **Buchert, S. C.**, Characteristics of fragmented aurora-like emissions (FAEs) observed on Svalbard, *Annales Geophysicae*, 39, 277, doi:10.5194/angeo-39-277-2021, 2021.
22. **Dreyer, J.**, **Vigren, E.**, **Morooka, M.**, **Wahlund, J.-E.**, **Buchert, S. C.**, **Johansson, F. L.**, & Waite, J. H., Constraining the Positive Ion Composition in Saturn's Lower Ionosphere with the Effective Recombination Coefficient, *The Planetary Science Journal*, 2, 39, doi:10.3847/PSJ/abd6e9, 2021.
23. Echim, M., Chang, T., Kovacs, P., Wawrzaszek, A., **Yordanova, E.**, Narita, Y., Vörös, Z., Bruno, R., Macek, W., Mursula, K., & Consolini, G., Turbulence and Complexity of Magnetospheric Plasmas, *Magnetospheres in the Solar System*, 2, 67, doi:10.1002/9781119815624.ch5, 2021.
24. Fadanelli, S., Lavraud, B., Califano, F., **Cozzani, G.**, Finelli, F., & Sisti, M., Energy Conversions Associated With Magnetic Reconnection, *Journal of Geophysical Research (Space Physics)*, 126, e28333, doi:10.1029/2020JA028333, 2021.
25. Fischer, G., Panchenko, M., Macher, W., Kasaba, Y., Misawa, H., Tokarz, M., Wisniewski, L., Cecconi, B., **Bergman, J.**, & **Wahlund, J.-E.**, Calibration of the JUICE RWI Antennas by Numerical Simulation, *Radio Science*, 56, e07309, doi:10.1029/2021RS007309, 2021.
26. Fletcher, L. N., Helled, R., Roussos, E., Jones, G., Charnoz, S., André, N., **Andrews, D.**, Bannister, M., Bunce, E., Cavalié, T., Ferri, F., Fortney, J., Grassi, D., Griton, L., Hartogh, P., Hueso, R., Kaspi, Y., Lamy, L., Masters, A., Melin, H., Moses, J., Mousis, O., Nettleman, N., Plainaki, C., Schmidt, J., Simon, A., Tobie, G., Tortora, P., Tosi, F., & Turrini, D., Ice giant system exploration within ESA's Voyage 2050, *Experimental Astronomy*, doi:10.1007/s10686-021-09759-z, 2021.
27. Gao, C.-H., Tang, B.-B., Li, W. Y., Wang, C., **Khotyaintsev, Y. V.**, **Graham, D. B.**, Gershman, D. J., Rager, A. C., Giles, B. L., Lindqvist, P.-A., Ergun, R. E., Russell, C. T., & Burch, J. L., Effect of the Electric Field on the Agyrotropic Electron Distributions, *Geophysical Research Letters*, 48, e91437, doi:10.1029/2020GL091437, 2021.
28. Gedalin, M., Russell, C. T., & **Dimmock, A. P.**, Shock Mach Number Estimates Using Incomplete Measurements, *Journal of Geophysical Research (Space Physics)*, 126, e29519, doi:10.1029/2021JA029519, 2021.
29. Goetz, C., Gunell, H., Volwerk, M., Beth, A., **Eriksson, A.**, Galand, M., Henri, P., Nilsson, H., Wedlund, C. S., Alho, M., Andersson, L., Andre, N., De Keyser, J.,

- Deca, J., Ge, Y., Glassmeier, K.-H., Hajra, R., Karlsson, T., Kasahara, S., Kolmasova, I., LLera, K., Madanian, H., Mann, I., Mazelle, C., **Odelstad, E.**, Plaschke, F., Rubin, M., Sanchez-Cano, B., Snodgrass, C., & **Vigren, E.**, Cometary plasma science, *Experimental Astronomy*, doi:10.1007/s10686-021-09783-z, 2021.
30. Goetz, C., Gunell, H., **Johansson, F.**, LLera, K., Nilsson, H., Glassmeier, K.-H., & Taylor, M. G. G. T., Warm protons at comet 67P/Churyumov-Gerasimenko - implications for the infant bow shock, *Annales Geophysicae*, 39, 379, doi:10.5194/angeo-39-379-2021, 2021.
31. **Graham, D. B.**, **Khotyaintsev, Y. V.**, Vaivads, A., **Edberg, N. J. T.**, **Eriksson, A. I.**, **Johansson, E. P. G.**, **Sorriso-Valvo, L.**, Maksimovic, M., Souček, J., Píša, D., Bale, S. D., Chust, T., Kretzschmar, M., Krasnoselskikh, V., Lorfèvre, E., Plettemeier, D., Steller, M., Štverák, Š., Trávníček, P., Vecchio, A., Horbury, T. S., O'Brien, H., Evans, V., & Angelini, V., Kinetic electrostatic waves and their association with current structures in the solar wind, *Astronomy and Astrophysics*, 656, A23, doi:10.1051/0004-6361/202140943, 2021.
32. **Graham, D. B.**, **Khotyaintsev, Y. V.**, **André, M.**, Vaivads, A., Chasapis, A., Matthaeus, W. H., Retinò, A., Valentini, F., & Gershman, D. J., Non-Maxwellianity of Electron Distributions Near Earth's Magnetopause, *Journal of Geophysical Research (Space Physics)*, 126, e29260, doi:10.1029/2021JA029260, 2021.
33. Gunell, H., Goetz, C., **Odelstad, E.**, Beth, A., Hamrin, M., Henri, P., **Johansson, F. L.**, Nilsson, H., & Stenberg Wieser, G., Ion acoustic waves near a comet nucleus: Rosetta observations at comet 67P/Churyumov-Gerasimenko, *Annales Geophysicae*, 39, 53, doi:10.5194/angeo-39-53-2021, 2021.
34. Guzzi, G., **Settino, A.**, Valentini, F., Malara, F., Exact hybrid-kinetic equilibria for magnetized plasmas with shearing flows, *J. of Plasma Physics*, 645, A147, doi:10.1051/0004-6361/202039656, 2021.
35. Hadid, L. Z., **Edberg, N. J. T.**, Chust, T., Píša, D., **Dimmock, A. P.**, **Morooka, M. W.**, Maksimovic, M., **Khotyaintsev, Y. V.**, Souček, J., Kretzschmar, M., Vecchio, A., Le Contel, O., Retino, A., Allen, R. C., Volwerk, M., Fowler, C. M., **Sorriso-Valvo, L.**, Karlsson, T., Santolík, O., Kolmašová, I., Sahraoui, F., Stergiopoulou, K., Moussas, X., Issautier, K., Dewey, R. M., Klein Wolt, M., Malandraki, O. E., Kontar, E. P., Howes, G. G., Bale, S. D., Horbury, T. S., Martinović, M., Vaivads, A., Krasnoselskikh, V., Lorfèvre, E., Plettemeier, D., Steller, M., Štverák, Š., Trávníček, P., O'Brien, H., Evans, V., Angelini, V., Velli, M. C., & Zouganelis, I., Solar Orbiter's first Venus flyby: Observations from the Radio and Plasma Wave instrument, *Astronomy and Astrophysics*, 656, A18, doi:10.1051/0004-6361/202140934, 2021.
36. Hadid, L. Z., Génot, V., Aizawa, S., Milillo, A., Zender, J., Murakami, G., Benkhoff, J., Zouganelis, I., Alberti, T., André, N., Bebesi, Z., Califano, F., **Dimmock, A. P.**, Dosa, M., Escoubet, C. P., Griton, L., Ho, G. C., Horbury, T. S.,

- Iwai, K., Janvier, M., Kilpua, E., Lavraud, B., Madar, A., Miyoshi, Y., Müller, D., Pinto, R. F., Rouillard, A. P., Raines, J. M., Raouafi, N., Sahraoui, F., Sánchez-Cano, B., Shiota, D., Vainio, R., & Walsh, A., BepiColombo's cruise phase: unique opportunity for synergistic observations, *Frontiers in Astronomy and Space Sciences*, 8, 154, doi:10.3389/fspas.2021.718024, 2021.
37. Hansel, P. J., Wilder, F. D., Malaspina, D. M., Ergun, R. E., Ahmadi, N., Holmes, J. C., Goodrich, K. A., Fuselier, S., Giles, B., Russell, C. T., Torbert, R., Strangeway, R., **Khotyaintsev, Y.**, Lindqvist, P.-A., & Burch, J., Mapping MMS Observations of Solitary Waves in Earth's Magnetic Field, *Journal of Geophysical Research (Space Physics)*, 126, e29389, doi:10.1029/2021JA029389, 2021.
38. Hernández, C. S., **Sorriso-Valvo, L.**, Bandyopadhyay, R., Chasapis, A., Váscónez, C. L., Marino, R., & Pezzi, O., Impact of Switchbacks on Turbulent Cascade and Energy Transfer Rate in the Inner Heliosphere, *The Astrophysical Journal*, 922, L11, doi:10.3847/2041-8213/ac36d1, 2021.
39. Holmberg, M. K. G., Cipriani, F., Nilsson, T., Hess, S., Huybrighs, H. L. F., Hadid, L. Z., Déprez, G., Wilson, R. J., **Morooka, M. W.**, & Felici, M., Cassini-Plasma Interaction Simulations Revealing the Cassini Ion Wake Characteristics: Implications for In-Situ Data Analyses and Ion Temperature Estimates, *Journal of Geophysical Research (Space Physics)*, 126, e29026, doi:10.1029/2020JA029026, 2021.
40. Hwang, K.-J., Burch, J. L., Russell, C. T., Choi, E., Dokgo, K., Fear, R. C., Fuselier, S. A., Petrinec, S. M., Sibeck, D. G., Hasegawa, H., Fu, H., Øieroset, M., Escoubet, C. P., Giles, B. L., **Khotyaintsev, Y.**, **Graham, D. B.**, Gershman, D. J., Pollock, C. J., Ergun, R. E., Torbert, R. B., & Broll, J., Microscale Processes Determining Macroscale Evolution of Magnetic Flux Tubes along Earth's Magnetopause, *The Astrophysical Journal*, 914, 26, doi:10.3847/1538-4357/abf8b1, 2021.
41. Hwang, K.-J., Dokgo, K., Choi, E., Burch, J. L., Sibeck, D. G., Giles, B. L., Norgren, C., Nakamura, T. K. M., **Graham, D. B.**, **Khotyaintsev, Y.**, Shi, Q. Q., Gershman, D. J., Pollock, C. J., Ergun, R. E., Torbert, R. B., Russell, C. T., & Strangeway, R. J., Bifurcated current sheet observed on the boundary of Kelvin-Helmholtz vortices, *Frontiers in Astronomy and Space Sciences*, 8, 201, doi:10.3389/fspas.2021.782924, 2021.
42. **Johansson, F. L.**, **Eriksson, A. I.**, **Vigren, E.**, Bucciantini, L., Henri, P., Nilsson, H., Bergman, S., **Edberg, N. J. T.**, Stenberg Wieser, G., & **Odelstad, E.**, Plasma densities, flow, and solar EUV flux at comet 67P. A cross-calibration approach, *Astronomy and Astrophysics*, 653, A128, doi:10.1051/0004-6361/202039959, 2021.
43. Johlander, A., Battarbee, M., Vaivads, A., Turc, L., Pfau-Kempf, Y., Ganse, U., Grandin, M., Dubart, M., **Khotyaintsev, Y. V.**, Caprioli, D., Haggerty, C., Schwartz, S. J., Giles, B. L., & Palmroth, M., Ion Acceleration Efficiency at the Earth's Bow Shock: Observations and Simulation Results, *The Astrophysical*

*Journal*, 914, 82, doi:10.3847/1538-4357/abfabc, 2021.

44. Kajdič, P., Pfau-Kempf, Y., Turc, L., **Dimmock, A. P.**, Palmroth, M., Takahashi, K., Kilpua, E., Soucek, J., Takahashi, N., Preisser, L., Blanco-Cano, X., Trotta, D., & Burgess, D., ULF Wave Transmission Across Collisionless Shocks: 2.5D Local Hybrid Simulations, *Journal of Geophysical Research (Space Physics)*, 126, e29283, doi:10.1029/2021JA029283, 2021.
45. Kamaletdinov, S. R., Hutchinson, I. H., Vasko, I. Y., Artemyev, A. V., **Lotekar, A.**, & Mozer, F., Spacecraft Observations and Theoretical Understanding of Slow Electron Holes, *Physical Review Letters*, 127, 165101, doi:10.1103/PhysRevLett.127.165101, 2021.
46. Karlsson, T., Heyner, D., Volwerk, M., **Morooka, M.**, Plaschke, F., Goetz, C., & Hadid, L., Magnetic Holes in the Solar Wind and Magnetosheath Near Mercury, *Journal of Geophysical Research (Space Physics)*, 126, e28961, doi:10.1029/2020JA028961, 2021.
47. **Khotyaintsev, Y. V., Graham, D. B.**, Vaivads, A., **Steinvall, K., Edberg, N. J. T., Eriksson, A. I., Johansson, E. P. G., Sorriso-Valvo, L.**, Maksimovic, M., Bale, S. D., Chust, T., Krasnoselskikh, V., Kretzschmar, M., Lorfèvre, E., Plettemeier, D., Souček, J., Steller, M., Štverák, Š., Trávníček, P., Vecchio, A., Horbury, T. S., O'Brien, H., Evans, V., & Angelini, V., Density fluctuations associated with turbulence and waves. First observations by Solar Orbiter, *Astronomy and Astrophysics*, 656, A19, doi:10.1051/0004-6361/202140936, 2021.
48. Kilpua, E. K. J., Good, S. W., Ala-Lahti, M., Osmane, A., Fontaine, D., Hadid, L., Janvier, M., & **Yordanova, E.**, Statistical analysis of magnetic field fluctuations in CME-driven sheath regions, *Frontiers in Astronomy and Space Sciences*, 7, 109, doi:10.3389/fspas.2020.610278, 2021.
49. Kim, H., Shiokawa, K., Park, J., Miyoshi, Y., Miyashita, Y., Stolle, C., Connor, H. K., Hwang, J., **Buchert, S.**, Kwon, H.-J., Nakamura, S., Nakamura, K., Oyama, S.-I., Otsuka, Y., Nagatsuma, T., & Sakaguchi, K., Isolated Proton Aurora Driven by EMIC Pc1 Wave: PWING, Swarm, and NOAA POES Multi-Instrument Observations, *Geophysical Research Letters*, 48, e95090, doi:10.1029/2021GL095090, 2021.
50. Kim, H., Shiokawa, K., Park, J., Miyoshi, Y., Stolle, C., & **Buchert, S.**, Statistical Analysis of Pc1 Wave Ducting Deduced From Swarm Satellites, *Journal of Geophysical Research (Space Physics)*, 126, e29016, doi:10.1029/2020JA029016, 2021.
51. Kollhoff, A., Kouloumvakos, A., Lario, D., Dresing, N., Gómez-Herrero, R., Rodríguez-García, L., Malandraki, O. E., Richardson, I. G., Posner, A., Klein, K.-L., Pacheco, D., Klassen, A., Heber, B., Cohen, C. M. S., Laitinen, T., Cernuda, I., Dalla, S., Espinosa Lara, F., Vainio, R., Köberle, M., Kühl, R., Xu, Z. G., Berger, L., Eldrum, S., Brüdern, M., Laurenza, M., Kilpua, E. J., Aran, A., Rouillard, A. P., Bučík, R., Wijsen, N., Pomoell, J., Wimmer-Schweingruber, R. F., Martin, C.,

- Böttcher, S. I., Freiherr von Forstner, J. L., Terasa, J.-C., Boden, S., Kulkarni, S. R., Ravanbakhsh, A., Yedla, M., Janitzek, N., Rodríguez-Pacheco, J., Prieto Mateo, M., Sánchez Prieto, S., Parra Espada, P., Rodríguez Polo, O., Martínez Hellín, A., Carcaboso, F., Mason, G. M., Ho, G. C., Allen, R. C., Bruce Andrews, G., Schlemm, C. E., Seifert, H., Tyagi, K., Lees, W. J., Hayes, J., Bale, S. D., Krupar, V., Horbury, T. S., Angelini, V., Evans, V., O'Brien, H., Maksimovic, M., **Khotyaintsev, Y. V.**, Vecchio, A., **Steinvall, K.**, & Asvestari, E., The first widespread solar energetic particle event observed by Solar Orbiter on 2020 November 29, *Astronomy and Astrophysics*, 656, A20, doi:10.1051/0004-6361/202140937, 2021.
52. Kretzschmar, M., Chust, T., Krasnoselskikh, V., **Graham, D.**, Colomban, L., Maksimovic, M., **Khotyaintsev, Y. V.**, Soucek, J., **Steinvall, K.**, Santolík, O., Jannet, G., Brochot, J.-Y., Le Contel, O., Vecchio, A., Bonnin, X., Bale, S. D., Froment, C., Larosa, A., Bergerard-Timofeeva, M., Ferreau, P., Lorfèvre, E., Plettemeier, D., Steller, M., Štverák, Š., Trávníček, P., Vaivads, A., Horbury, T. S., O'Brien, H., Evans, V., Angelini, V., Owen, C. J., & Louarn, P., Whistler waves observed by Solar Orbiter/RPW between 0.5 AU and 1 AU, *Astronomy and Astrophysics*, 656, A24, doi:10.1051/0004-6361/202140945, 2021.
53. Lee, J. H., Turner, D. L., Vines, S. K., Allen, R. C., Toledo-Redondo, S., Bingham, S. T., Fuselier, S. A., Cohen, I. J., Starkey, M. J., **Graham, D. B.**, **Khotyaintsev, Y. V.**, Mauk, B. H., Pollock, C. J., Ergun, R. E., Lindqvist, P.-A., Torbert, R. B., & Burch, J. L., Application of Cold and Hot Plasma Composition Measurements to Investigate Impacts on Dusk Side Electromagnetic Ion Cyclotron Waves, *Journal of Geophysical Research (Space Physics)*, 126, e28650, doi:10.1029/2020JA028650, 2021.
54. Li, K., **André, M.**, **Eriksson, A.**, Wei, Y., Cui, J., & Haaland, S., High-latitude cold ion outflow inferred from the Cluster wake observations in the magnetotail lobes and the polar cap region, *Frontiers in Physics*, 9, 620, doi:10.3389/fphy.2021.743316, 2021.
55. Li, W.-Y., **Khotyaintsev, Y. V.**, Tang, B.-B., **Graham, D. B.**, Norgren, C., Vaivads, A., **André, M.**, Le, A., Egedal, J., Dokgo, K., Fujimoto, K., He, J.-S., Burch, J. L., Lindqvist, P.-A., Ergun, R. E., Torbert, R. B., Le Contel, O., Gershman, D. J., Giles, B. L., Lavraud, B., Fuselier, S., Plaschke, F., Russell, C. T., Guo, X.-C., Lu, Q.-M., & Wang, C., Upper-Hybrid Waves Driven by Meandering Electrons Around Magnetic Reconnection X Line, *Geophysical Research Letters*, 48, e93164, doi:10.1029/2021GL093164, 2021.
56. Li, Y.-X., Li, W.-Y., Tang, B.-B., Norgren, C., He, J.-S., Wang, C., Zong, Q.-G., Toledo-Redondo, S., **André, M.**, Chappell, C., Dargent, J., Fuselier, S. A., Glocer, A., **Graham, D. B.**, Haaland, S., Kistler, L., Lavraud, B., Moore, T. E., Tenfjord, P., Vines, S. K., & Burch, J., Quantification of cold-ion beams in a magnetic reconnection jet, *Frontiers in Astronomy and Space Sciences*, 8, 193, doi:10.3389/fspas.2021.745264, 2021.
57. Lillis, R. J., Mitchell, D., Montabone, L., Heavens, N., Harrison, T., Stuurman, C.,



- Guzewich, S., England, S., Withers, P., Chaffin, M., Curry, S., Ao, C., Matousek, S., Barba, N., Woolley, R., Smith, I., Osinski, G. R., Kleinböhl, A., Tamppari, L., Mischna, M., Kass, D., Smith, M., Wolff, M., Kahre, M., Spiga, A., Forget, F., Cantor, B., Deighan, J., Brecht, A., Bougher, S., Fowler, C. M., **Andrews, D.**, Patzold, M., Peter, K., Tellmann, S., Lester, M., Sánchez-Cano, B., Luhmann, J., Leblanc, F., Halekas, J., Brain, D., Fang, X., Espley, J., Opgenoorth, H., Vaisberg, O., Hinson, D., Asmar, S., Vander Hook, J., Karatekin, O., Barjatya, A., & Tripathi, A., MOSAIC: A Satellite Constellation to Enable Groundbreaking Mars Climate System Science and Prepare for Human Exploration, *The Planetary Science Journal*, 2, 211, doi:10.3847/PSJ/ac0538, 2021.
58. Louarn, P., Fedorov, A., Prech, L., Owen, C. J., Bruno, R., Livi, S., Lavraud, B., Rouillard, A. P., Génot, V., André, N., Fruit, G., Réville, V., Kieokaew, R., Plotnikov, I., Penou, E., Barthe, A., Khataria, D., Berthomier, M., D'Amicis, R., **Sorriso-Valvo, L.**, Allegrini, F., Raines, J., Verscharen, D., Fortunato, V., Mele, G., Horbury, T. S., O'brien, H., Evans, V., Angelini, V., Maksimovic, M., Kasper, J. C., & Bale, S. D., Multiscale views of an Alfvénic slow solar wind: 3D velocity distribution functions observed by the Proton-Alpha Sensor of Solar Orbiter, *Astronomy and Astrophysics*, 656, A36, doi:10.1051/0004-6361/202141095, 2021.
59. Maksimovic, M., Bale, S. D., Chust, T., **Khotyaintsev, Y.**, Krasnoselskikh, V., Kretzschmar, M., Plettemeier, D., Rucker, H. O., Souček, J., Steller, M., Štverák, Š., Trávníček, P., Vaivads, A., Chaintreuil, S., Dekkali, M., Alexandrova, O., Astier, P.-A., Barbary, G., Bérard, D., Bonnin, X., Boughedada, K., Cecconi, B., Chapron, F., Chariet, M., Collin, C., de Conchy, Y., Dias, D., Guéguen, L., Lamy, L., Leray, V., Lion, S., Malac-Allain, L. R., Matteini, L., Nguyen, Q. N., Pantellini, F., Parisot, J., Plasson, P., Thijs, S., Vecchio, A., Fratter, I., Bellouard, E., Lorfèvre, E., Danto, P., Julien, S., Guilhem, E., Fiachetti, C., Sanisidro, J., Laffaye, C., Gonzalez, F., Pontet, B., Quéruel, N., Jannet, G., Ferreau, P., Brochot, J.-Y., Cassam-Chenai, G., Dudok de Wit, T., Timofeeva, M., Vincent, T., Agrapart, C., Delory, G. T., Turin, P., Jeandet, A., Leroy, P., Pellion, J.-C., Bouzid, V., Katra, B., Piberne, R., Recart, W., Santolík, O., Kolmašová, I., Krupař, V., Krupařová, O., Píša, D., Uhlíř, L., Lán, R., Baše, J., **Ahlèn, L.**, **André, M.**, Bylander, L., **Cripps, V.**, **Cully, C.**, **Eriksson, A.**, **Jansson, S.-E.**, **Johansson, E. P. G.**, Karlsson, T., **Puccio, W.**, Břínek, J., Öttacher, H., Panchenko, M., Berthomier, M., Goetz, K., Hellinger, P., Horbury, T. S., Issautier, K., Kontar, E., Krucker, S., Le Contel, O., Louarn, P., Martinović, M., Owen, C. J., Retino, A., Rodríguez-Pacheco, J., Sahraoui, F., Wimmer-Schweingruber, R. F., Zaslavsky, A., & Zouganelis, I., The Solar Orbiter Radio and Plasma Waves (RPW) instrument (Corrigendum), *Astronomy and Astrophysics*, 654, C2, doi:10.1051/0004-6361/201936214e, 2021.
60. Maksimovic, M., Souček, J., Chust, T., **Khotyaintsev, Y.**, Kretzschmar, M., Bonnin, X., Vecchio, A., Alexandrova, O., Bale, S. D., Bérard, D., Brochot, J.-Y., Edberg, N. J. T., Eriksson, A., Hadid, L. Z., Johansson, E. P. G., Karlsson, T., Katra, B., Krasnoselskikh, V., Krupař, V., Lion, S., Lorfèvre, E., Matteini, L., Nguyen, Q. N., Píša, D., Piberne, R., Plettemeier, D., Rucker, H. O., Santolík, O., Steinvall, K., Steller, M., Štverák, Š., Trávníček, P., Vaivads, A., Zaslavsky, A., Chaintreuil, S., Dekkali, M., Astier, P.-A., Barbary, G., Boughedada, K., Cecconi,

- B., Chapron, F., Collin, C., Dias, D., Guéguen, L., Lamy, L., Leray, V., Malac-Allain, L. R., Pantellini, F., Parisot, J., Plasson, P., Thijs, S., Fratter, I., Bellouard, E., Danto, P., Julien, S., Guilhem, E., Fiachetti, C., Sanisidro, J., Laffaye, C., Gonzalez, F., Pontet, B., Quéruef, N., Jannet, G., Fergeau, P., Dudok de Wit, T., Vincent, T., Agrapart, C., Pragout, J., Bergerard-Timofeeva, M., Delory, G. T., Turin, P., Jeandet, A., Leroy, P., Pellion, J.-C., Bouzid, V., Recart, W., Kolmašová, I., Krupařová, O., Uhlíř, L., Lán, R., Baše, J., **André, M.**, Bylander, L., **Cripps, V.**, Cully, C., **Jansson, S.-E.**, **Puccio, W.**, Břínek, J., Ottacher, H., Angelini, V., Berthomier, M., Evans, V., Goetz, K., Hellinger, P., Horbury, T. S., Issautier, K., Kontar, E., Le Contel, O., Louarn, P., Martinović, M., Müller, D., O'Brien, H., Owen, C. J., Retino, A., Rodríguez-Pacheco, J., Sahraoui, F., Sanchez, L., Walsh, A. P., Wimmer-Schweingruber, R. F., & Zouganelis, I., First observations and performance of the RPW instrument on board the Solar Orbiter mission, *Astronomy and Astrophysics*, 656, A41, doi:10.1051/0004-6361/202141271, 2021.
61. Matsui, H., Torbert, R. B., Spence, H. E., Argall, M. R., Cohen, I. J., Cooper, M. B., Ergun, R. E., Farrugia, C. J., Fennell, J. F., Fuselier, S. A., Gkioulidou, M., **Khotyaintsev, Y. V.**, Lindqvist, P.-A., Matsuoka, A., Russell, C. T., Shoji, M., Strangeway, R. J., Turner, D. L., Vaith, H., & Wygant, J. R., A Multi Instrument Study of a Dipolarization Event in the Inner Magnetosphere, *Journal of Geophysical Research (Space Physics)*, 126, e29294, doi:10.1029/2021JA029294, 2021.
62. Matteini, L., Laker, R., Horbury, T., Woodham, L., Bale, S. D., Stawarz, J. E., Woolley, T., **Steinvall, K.**, Jones, G. H., Grant, S. R., Afghan, Q., Galand, M., O'Brien, H., Evans, V., Angelini, V., Maksimovic, M., Chust, T., **Khotyaintsev, Y.**, Krasnoselskikh, V., Kretzschmar, M., Lorfèvre, E., Plettemeier, D., Souček, J., Steller, M., Štverák, Š., Trávníček, P., Vaivads, A., Vecchio, A., Wimmer-Schweingruber, R. F., Ho, G. C., Gómez-Herrero, R., Rodríguez-Pacheco, J., Louarn, P., Fedorov, A., Owen, C. J., Bruno, R., Livi, S., Zouganelis, I., & Müller, D., Solar Orbiter's encounter with the tail of comet C/2019 Y4 (ATLAS): Magnetic field draping and cometary pick-up ion waves, *Astronomy and Astrophysics*, 656, A39, doi:10.1051/0004-6361/202141229, 2021.
63. Nakamura, R., Baumjohann, W., Nakamura, T. K. M., Panov, E. V., Schmid, D., Varsani, A., Apatenkov, S., Sergeev, V. A., Birn, J., Nagai, T., Gabrielse, C., **André, M.**, Burch, J. L., Carr, C., Dandouras, I. S., Escoubet, C. P., Fazakerley, A. N., Giles, B. L., Le Contel, O., Russell, C. T., & Torbert, R. B., Thin Current Sheet Behind the Dipolarization Front, *Journal of Geophysical Research (Space Physics)*, 126, e29518, doi:10.1029/2021JA029518, 2021.
64. Nilsson, H., Behar, E., Burch, J. L., Carr, C. M., **Eriksson, A. I.**, Glassmeier, K.-H., Henri, P., Galand, M., Goetz, C., Gunell, H., & Karlsson, T., Birth of a Magnetosphere, *Magnetospheres in the Solar System*, 2, 427, doi:10.1002/9781119815624.ch27, 2021.
65. Olshevsky, V., **Khotyaintsev, Y. V.**, **Lalti, A.**, Divin, A., Delzanno, G. L., Anderzén, S., Herman, P., Chien, S. W. D., Avany, L., **Dimmock, A. P.**, &

- Markidis, S., Automated Classification of Plasma Regions Using 3D Particle Energy Distributions, *Journal of Geophysical Research (Space Physics)*, 126, e29620, doi:10.1029/2021JA029620, 2021.
66. Palmroth, M., Grandin, M., Sarris, T., Doornbos, E., Tourgaidis, S., Aikio, A., **Buchert, S.**, Clilverd, M. A., Dandouras, I., Heelis, R., Hoffmann, A., Ivchenko, N., Kervalishvili, G., Knudsen, D. J., Kotova, A., Liu, H.-L., Malaspina, D. M., March, G., Marchaudon, A., Marghitu, O., Matsuo, T., Miloch, W. J., Moretto-Jørgensen, T., Mpaloukidis, D., Olsen, N., Papadakis, K., Pfaff, R., Pirnaris, P., Siemes, C., Stolle, C., Suni, J., van den IJssel, J., Verronen, P. T., Visser, P., & Yamauchi, M., Lower-thermosphere-ionosphere (LTI) quantities: current status of measuring techniques and models, *Annales Geophysicae*, 39, 189, doi:10.5194/angeo-39-189-2021, 2021.
67. Perri, S., Perrone, D., Roberts, O., Settino, A., **Yordanova, E.**, **Sorriso-Valvo, L.**, Veltri, P., & Valentini, F., Nature of Electrostatic Fluctuations in the Terrestrial Magnetosheath, *The Astrophysical Journal*, 919, 75, doi:10.3847/1538-4357/ac13a2, 2021.
68. Perri, S., **Sorriso-Valvo, L.**, Tenerani, A., & Hellinger, P., Editorial: Advances in Space Plasma Turbulence: Theory and Observations, *Frontiers in Astronomy and Space Sciences*, 8, 203, doi:10.3389/fspas.2021.801868, 2021.
69. Pezzi, O., Liang, H., Juno, J. L., Cassak, P. A., Váscónez, C. L., **Sorriso-Valvo, L.**, Perrone, D., Servidio, S., Roytershteyn, V., TenBarge, J. M., & Matthaeus, W. H., Dissipation measures in weakly collisional plasmas, *Monthly Notices of the Royal Astronomical Society*, 505, 4857, doi:10.1093/mnras/stab1516, 2021.
70. Píša, D., Souček, J., Santolík, O., Hanzelka, M., Nicolaou, G., Maksimovic, M., Bale, S. D., Chust, T., **Khotyaintsev, Y.**, Krasnoselskikh, V., Kretschmar, M., Lorfèvre, E., Plettemeier, D., Steller, M., Štverák, Š., Trávníček, P., Vaivads, A., Vecchio, A., Horbury, T., O'Brien, H., Evans, V., Angelini, V., Owen, C. J., & Louarn, P., First-year ion-acoustic wave observations in the solar wind by the RPW/TDS instrument on board Solar Orbiter, *Astronomy and Astrophysics*, 656, A14, doi:10.1051/0004-6361/202140928, 2021.
71. Quijia, P., Fraternali, F., Stawarz, J. E., Váscónez, C. L., Perri, S., Marino, R., **Yordanova, E.**, & **Sorriso-Valvo, L.**, Comparing turbulence in a Kelvin-Helmholtz instability region across the terrestrial magnetopause, *Monthly Notices of the Royal Astronomical Society*, 503, 4815, doi:10.1093/mnras/stab319, 2021.
72. Quijia, P., Fraternali, F., Stawarz, J. E., Váscónez, C. L., Perri, S., Marino, R., **Yordanova, E.**, & **Sorriso-Valvo, L.**, Erratum: Comparing turbulence in a Kelvin-Helmholtz instability region across the terrestrial magnetopause, *Monthly Notices of the Royal Astronomical Society*, 503, 4828, doi:10.1093/mnras/stab847, 2021.
73. Retinò, A., **Khotyaintsev, Y.**, Le Contel, O., Marcucci, M. F., Plaschke, F.,

- Vaivads, A., Angelopoulos, V., Blasi, P., Burch, J., De Keyser, J., Dunlop, M., Dai, L., Eastwood, J., Fu, H., Haaland, S., Hoshino, M., **Johlander, A.**, Kepko, L., Kucharek, H., Lapenta, G., Lavraud, B., Malandraki, O., Matthaeus, W., McWilliams, K., Petrukovich, A., Pinçon, J.-L., Saito, Y., **Sorriso-Valvo, L.**, Vainio, R., & Wimmer-Schweingruber, R., Particle energization in space plasmas: towards a multi-point, multi-scale plasma observatory, *Experimental Astronomy*, doi:10.1007/s10686-021-09797-7, 2021.
74. **Richard, L., Khotyaintsev, Y. V., Graham, D. B.**, Sitnov, M. I., Le Contel, O., & Lindqvist, P.-A., Observations of Short-Period Ion-Scale Current Sheet Flapping, *Journal of Geophysical Research (Space Physics)*, 126, e29152, doi:10.1029/2021JA029152, 2021.
75. Sánchez-Cano, B., Lester, M., **Andrews, D. J.**, Opgenoorth, H., Lillis, R., Leblanc, F., Fowler, C. M., Fang, X., Vaisberg, O., Mayyasi, M., Holmberg, M., Guo, J., Hamrin, M., Mazelle, C., Peter, K., Pätzold, M., **Stergiopoulou, K.**, Goetz, C., Ermakov, V. N., Shuvalov, S., Wild, J. A., Brelly, P.-L., Mendillo, M., Bertucci, C., Cartacci, M., Orosei, R., Chu, F., Kopf, A. J., Girazian, Z., & Roman, M. T., Mars' plasma system. Scientific potential of coordinated multipoint missions: "The next generation", *Experimental Astronomy*, doi: 10.1007/s10686-021-09790-0, 2021.
76. Sergeev, V. A., Apatenkov, S. V., Nakamura, R., Plaschke, F., Baumjohann, W., Panov, E. V., Kubyshkin, I. V., **Khotyaintsev, Y.**, Burch, J. L., Giles, B. L., Russell, C. T., & Torbert, R. B., MMS Observations of Reconnection Separatrix Region in the Magnetotail at Different Distances From the Active Neutral X Line, *Journal of Geophysical Research (Space Physics)*, 126, e28694, doi:10.1029/2020JA028694, 2021.
77. **Settino, A.**, Perrone, D., **Khotyaintsev, Y. V., Graham, D. B.**, & Valentini, F., Kinetic Features for the Identification of Kelvin-Helmholtz Vortices in In Situ Observations, *The Astrophysical Journal*, 912, 154, doi:10.3847/1538-4357/abf1f5, 2021.
78. **Sorriso-Valvo, L., Yordanova, E., Dimmock, A. P.**, & Telloni, D., Turbulent Cascade and Energy Transfer Rate in a Solar Coronal Mass Ejection, *The Astrophysical Journal*, 919, L30, doi:10.3847/2041-8213/ac26c5, 2021.
79. Soucek, J., Píša, D., Kolmasova, I., Uhlir, L., Lan, R., Santolík, O., Krupar, V., Kruparova, O., Baše, J., Maksimovic, M., Bale, S. D., Chust, T., **Khotyaintsev, Y. V.**, Krasnoselskikh, V., Kretzschmar, M., Lorfèvre, E., Plettemeier, D., Steller, M., Štverák, Š., Vaivads, A., Vecchio, A., Bérard, D., & Bonnin, X., Solar Orbiter Radio and Plasma Waves - Time Domain Sampler: In-flight performance and first results, *Astronomy and Astrophysics*, 656, A26, doi:10.1051/0004-6361/202140948, 2021.
80. **Steinvall, K., Khotyaintsev, Y. V., Cozzani, G.**, Vaivads, A., **Yordanova, E., Eriksson, A. I., Edberg, N. J. T.**, Maksimovic, M., Bale, S. D., Chust, T., Krasnoselskikh, V., Kretzschmar, M., Lorfèvre, E., Plettemeier, D., Souček, J.,

- Steller, M., Štverák, Š., Vecchio, A., Horbury, T. S., O'Brien, H., Evans, V., Fedorov, A., Louarn, P., Génot, V., André, N., Lavraud, B., Rouillard, A. P., & Owen, C. J., Solar wind current sheets and deHoffmann-Teller analysis. First results from Solar Orbiter's DC electric field measurements, *Astronomy and Astrophysics*, 656, A9, doi:10.1051/0004-6361/202140855, 2021.
81. **Steinvall, K., Khotyaintsev, Y. V., Graham, D. B.,** Vaivads, A., **André, M., &** Russell, C. T., Large Amplitude Electrostatic Proton Plasma Frequency Waves in the Magnetospheric Separatrix and Outflow Regions During Magnetic Reconnection, *Geophysical Research Letters*, 48, e90286, doi:10.1029/2020GL090286, 2021.
82. Stephan, K., Roatsch, T., Tosi, F., Matz, K.-D., Kersten, E., Wagner, R., Molyneux, P., Palumbo, P., Poulet, F., Hussmann, H., Barabash, S., Bruzzone, L., Dougherty, M., Gladstone, R., Gurvits, L. I., Hartogh, P., Iess, L., **Wahlund, J.-E.**, Wurz, P., Witasse, O., Grasset, O., Altobelli, N., Carter, J., Cavalié, T., D'Aversa, E., Della Corte, V., Filacchione, G., Galli, A., Galluzzi, V., Gwinner, K., Hauber, E., Jaumann, R., Krohn, K., Langevin, Y., Lucchetti, A., Migliorini, A., Piccioni, G., Solomonidou, A., Stark, A., Tobie, G., Tubiana, C., Vallat, C., van Hoolst, T., & The Juice Swt Team, Regions of interest on Ganymede's and Callisto's surfaces as potential targets for ESA's JUICE mission, *Planetary and Space Science*, 208, 105324, doi:10.1016/j.pss.2021.105324, 2021.
83. Stephenson, P., Galand, M., Feldman, P. D., Beth, A., Rubin, M., Bockelée-Morvan, D., Biver, N., Cheng, Y.-C., Parker, J., Burch, J., **Johansson, F. L., & Eriksson, A.**, Multi-instrument analysis of far-ultraviolet aurora in the southern hemisphere of comet 67P/Churyumov-Gerasimenko, *Astronomy and Astrophysics*, 647, A119, doi:10.1051/0004-6361/202039155, 2021.
84. Sulaiman, A. H., Achilleos, N., Bertucci, C., Coates, A., Dougherty, M., Hadid, L., Holmberg, M., Hsu, H.-W., Kimura, T., Kurth, W., Gall, A. L., McKeivitt, J., **Morooka, M.**, Murakami, G., Regoli, L., Roussos, E., Saur, J., Shebanits, O., Solomonidou, A., **Wahlund, J.-E.**, & Waite, J. H., Enceladus and Titan: emerging worlds of the Solar System, *Experimental Astronomy*, doi:10.1007/s10686-021-09810-z, 2021.
85. Sánchez-Cano, B., Lester, M., **Andrews, D. J.**, Opgenoorth, H., Lillis, R., Leblanc, F., Fowler, C. M., Fang, X., Vaisberg, O., Mayyasi, M., Holmberg, M., Guo, J., Hamrin, M., Mazelle, C., Peter, K., Pätzold, M., **Stergiopoulou, K.**, Goetz, C., Ermakov, V. N., Shuvalov, S., Wild, J. A., Brelvi, P.-L., Mendillo, M., Bertucci, C., Cartacci, M., Orosei, R., Chu, F., Kopf, A. J., Girazian, Z., & Roman, M. T., Mars' plasma system. Scientific potential of coordinated multipoint missions: "The next generation", *Experimental Astronomy*, doi:10.1007/s10686-021-09790-0, 2021.
86. Takahashi, K., Turc, L., Kilpua, E., Takahashi, N., **Dimmock, A.**, Kajdic, P., Palmroth, M., Pfau-Kempf, Y., Soucek, J., Motoba, T., Hartinger, M. D., Artemyev, A., Singer, H., Ganse, U., & Battarbee, M., Propagation of Ultralow Frequency Waves from the Ion Foreshock into the Magnetosphere During the

Passage of a Magnetic Cloud, *Journal of Geophysical Research (Space Physics)*, 126, e28474, doi:10.1029/2020JA028474, 2021.

87. Tang, B. B., Li, W. Y., Wang, C., **Khotyaintsev, Y. V.**, **Graham, D. B.**, Zhang, Q. H., Sun, T. R., Li, H., Wang, X. Y., Trattner, K. J., Giles, B. L., Lindqvist, P. A., Ergun, R. E., & Burch, J. L., Secondary magnetic reconnection at Earth's flank magnetopause, *Frontiers in Astronomy and Space Sciences*, 8, 179, doi:10.3389/fspas.2021.740560, 2021.
88. Telloni, D., Scolini, C., Möstl, C., Zank, G. P., Zhao, L.-L., Weiss, A. J., Reiss, M. A., Laker, R., Perrone, D., **Khotyaintsev, Y.**, **Steinvall, K.**, **Sorriso-Valvo, L.**, Horbury, T. S., Wimmer-Schweingruber, R. F., Bruno, R., D'Amicis, R., De Marco, R., Jagarlamudi, V. K., Carbone, F., Marino, R., Stangalini, M., Nakanotani, M., Adhikari, L., Liang, H., Woodham, L. D., Davies, E. E., Hietala, H., Perri, S., Gómez-Herrero, R., Rodríguez-Pacheco, J., Antonucci, E., Romoli, M., Fineschi, S., Maksimovic, M., Souček, J., Chust, T., Kretzschmar, M., Vecchio, A., Müller, D., Zouganelis, I., Winslow, R. M., Giordano, S., Mancuso, S., Susino, R., Ivanovski, S. L., Messerotti, M., O'Brien, H., Evans, V., & Angelini, V., Study of two interacting interplanetary coronal mass ejections encountered by Solar Orbiter during its first perihelion passage. Observations and modeling, *Astronomy and Astrophysics*, 656, A5, doi:10.1051/0004-6361/202140648, 2021.
89. Telloni, D., **Sorriso-Valvo, L.**, Woodham, L. D., Panasenco, O., Velli, M., Carbone, F., Zank, G. P., Bruno, R., Perrone, D., Nakanotani, M., Shi, C., D'Amicis, R., De Marco, R., Jagarlamudi, V. K., **Steinvall, K.**, Marino, R., Adhikari, L., Zhao, L., Liang, H., Tenerani, A., Laker, R., Horbury, T. S., Bale, S. D., Pulupa, M., Malaspina, D. M., MacDowall, R. J., Goetz, K., de Wit, T. D., Harvey, P. R., Kasper, J. C., Korreck, K. E., Larson, D., Case, A. W., Stevens, M. L., Whittlesey, P., Livi, R., Owen, C. J., Livi, S., Louarn, P., Antonucci, E., Romoli, M., O'Brien, H., Evans, V., & Angelini, V., Evolution of Solar Wind Turbulence from 0.1 to 1 au during the First Parker Solar Probe-Solar Orbiter Radial Alignment, *The Astrophysical Journal*, 912, L21, doi:10.3847/2041-8213/abf7d1, 2021.
90. Telloni, D., D'Amicis, R., Bruno, R., Perrone, D., **Sorriso-Valvo, L.**, Raghav, A. N., & Choraghe, K., Alfvénicity-related Long Recovery Phases of Geomagnetic Storms: A Space Weather Perspective, *The Astrophysical Journal*, 916, 64, doi:10.3847/1538-4357/ac071f, 2021.
91. Telloni, D., Andretta, V., Antonucci, E., Bemporad, A., Capuano, G. E., Fineschi, S., Giordano, S., Habbal, S., Perrone, D., Pinto, R. F., **Sorriso-Valvo, L.**, Spadaro, D., Susino, R., Woodham, L. D., Zank, G. P., Romoli, M., Bale, S. D., Kasper, J. C., Auchère, F., Bruno, R., Capobianco, G., Case, A. W., Casini, C., Casti, M., Chioetto, P., Corso, A. J., Da Deppo, V., De Leo, Y., Dudok de Wit, T., Frassati, F., Frassetto, F., Goetz, K., Guglielmino, S. L., Harvey, P. R., Heinzl, P., Jerse, G., Korreck, K. E., Landini, F., Larson, D., Liberatore, A., Livi, R., MacDowall, R. J., Magli, E., Malaspina, D. M., Massone, G., Messerotti, M., Moses, J. D., Naletto, G., Nicolini, G., Nisticò, G., Panasenco, O., Pancrazzi, M., Pelizzo, M. G., Pulupa, M., Reale, F., Romano, P., Sasso, C., Schühle, U.,

- Stangalini, M., Stevens, M. L., Strachan, L., Straus, T., Teriaca, L., Uslenghi, M., Velli, M., Verscharen, D., Volpicelli, C. A., Whittlesey, P., Zangrilli, L., Zimbardo, G., & Zuppella, P., Exploring the Solar Wind from Its Source on the Corona into the Inner Heliosphere during the First Solar Orbiter-Parker Solar Probe Quadrature, *The Astrophysical Journal*, 920, L14, doi:10.3847/2041-8213/ac282f, 2021.
92. Toledo-Redondo, S., Lee, J. H., Vines, S. K., Turner, D. L., Allen, R. C., André, M., Boardsen, S. A., Burch, J. L., Denton, R. E., Fu, H. S., Fuselier, S. A., Gershman, D. J., Giles, B., **Graham, D. B.**, Kitamura, N., **Khotyaintsev, Y. V.**, Lavraud, B., Le Contel, O., Li, W. Y., Moore, T. E., Navarro, E. A., Portí, J., Salinas, A., & Vinas, A., Kinetic Interaction of Cold and Hot Protons With an Oblique EMIC Wave Near the Dayside Reconnecting Magnetopause, *Geophysical Research Letters*, 48, e92376, doi:10.1029/2021GL092376, 2021.
93. Toledo-Redondo, S., Hwang, K.-J., Escoubet, C. P., Lavraud, B., Fornieles, J., Aunai, N., Fear, R. C., Dargent, J., Fu, H. S., Fuselier, S. A., Genestreti, K. J., **Khotyaintsev, Y. V.**, Li, W. Y., Norgren, C., & Phan, T. D., Solar Wind—Magnetosphere Coupling During Radial Interplanetary Magnetic Field Conditions: Simultaneous Multi-Point Observations, *Journal of Geophysical Research (Space Physics)*, 126, e29506, doi:10.1029/2021JA029506, 2021.
94. Toledo-Redondo, S., **André, M.**, Aunai, N., Chappell, C. R., Dargent, J., Fuselier, S. A., Glocer, A., **Graham, D. B.**, Haaland, S., Hesse, M., Kistler, L. M., Lavraud, B., Li, W., Moore, T. E., Tenfjord, P., & Vines, S. K., Impacts of Ionospheric Ions on Magnetic Reconnection and Earth's Magnetosphere Dynamics, *Reviews of Geophysics*, 59, e00707, doi:10.1029/2020RG000707, 2021.
95. Vaivads, A., **Khotyaintsev, Y. V.**, Retinò, A., Fu, H. S., Kronberg, E. A., & Daly, P. W., Cluster Observations of Energetic Electron Acceleration Within Earthward Reconnection Jet and Associated Magnetic Flux Rope, *Journal of Geophysical Research (Space Physics)*, 126, e29545, doi:10.1029/2021JA029545, 2021.
96. Vecchio, A., Maksimovic, M., Krupar, V., Bonnin, X., Zaslavsky, A., Astier, P. L., Dekkali, M., Cecconi, B., Bale, S. D., Chust, T., Guilhem, E., **Khotyaintsev, Y. V.**, Krasnoselskikh, V., Kretzschmar, M., Lorfèvre, E., Plettemeier, D., Souček, J., Steller, M., Štverák, Š., Trávníček, P., & Vaivads, A., Solar Orbiter/RPW antenna calibration in the radio domain and its application to type III burst observations, *Astronomy and Astrophysics*, 656, A33, doi:10.1051/0004-6361/202140988, 2021.
97. Verscharen, D., Stansby, D., Finley, A. J., Owen, C. J., Horbury, T., Maksimovic, M., Velli, M., Bale, S. D., Louarn, P., Fedorov, A., Bruno, R., Livi, S., **Khotyaintsev, Y. V.**, Vecchio, A., Lewis, G. R., Anekallu, C., Kelly, C. W., Watson, G., Kataria, D. O., O'Brien, H., Evans, V., Angelini, V., Solar Orbiter SWA, M., & RPW Teams, The angular-momentum flux in the solar wind observed during Solar Orbiter's first orbit, *Astronomy and Astrophysics*, 656, A28, doi:10.1051/0004-6361/202140956, 2021.
98. Verscharen, D., Wicks, R. T., Alexandrova, O., Bruno, R., Burgess, D., Chen, C.

- H. K., D'Amicis, R., De Keyser, J., de Wit, T. D., Franci, L., He, J., Henri, P., Kasahara, S., **Khotyaintsev, Y.**, Klein, K. G., Lavraud, B., Maruca, B. A., Maksimovic, M., Plaschke, F., Poedts, S., Reynolds, C. S., Roberts, O., Sahraoui, F., Saito, S., Salem, C. S., Saur, J., Servidio, S., Stawarz, J. E., Štverák, Š., & Told, D., A Case for Electron-Astrophysics, *Experimental Astronomy*, doi:10.1007/s10686-021-09761-5, 2021.
99. **Vigren, E., Eriksson, A. I., Johansson, F. L.**, Marschall, R., **Morooka, M.**, & Rubin, M., A Case for a Small to Negligible Influence of Dust Charging on the Ionization Balance in the Coma of Comet 67P, *The Planetary Science Journal*, 2, 156, doi:10.3847/PSJ/ac134f, 2021.
100. **Vigren, E.**, Asymptotics of a recursive sequence, *American Mathematical Monthly*, 128, 862, doi: 10.1080/00029890.2021.1964307, 2021
101. Volwerk, M., Horbury, T. S., Woodham, L. D., Bale, S. D., Simon Wedlund, C., Schmid, D., Allen, R. C., Angelini, V., Baumjohann, W., Berger, L., **Edberg, N. J. T.**, Evans, V., Hadid, L. Z., Ho, G. C., **Khotyaintsev, Y. V.**, Magnes, W., Maksimovic, M., O'Brien, H., Steller, M. B., Rodriguez-Pacheco, J., & Wimmer-Scheingruber, R. F., Solar Orbiter's first Venus flyby. MAG observations of structures and waves associated with the induced Venusian magnetosphere, *Astronomy and Astrophysics*, 656, A11, doi:10.1051/0004-6361/202140910, 2021.
102. Voeroes, Z., Varsani, A., **Yordanova, E.**, Sasunov, Y. L., Roberts, O. W., Kis, A., Nakamura, R., Narita, Y., Magnetic Reconnection Within the Boundary Layer of a Magnetic Cloud in the Solar Wind, *J. Geophys. Res. Space Physics*, 126,9, e2021JA029415, doi: 10.1029/2021JA029415, 2021.
103. Vásconez, C. L., Perrone, D., Marino, R., Laveder, D., Valentini, F., Servidio, S., Mininni, P., & **Sorriso-Valvo, L.**, Local and global properties of energy transfer in models of plasma turbulence, *Journal of Plasma Physics*, 87, 825870101, doi:10.1017/S0022377820001567, 2021.
104. Vörös, Z., Varsani, A., **Yordanova, E.**, Sasunov, Y. L., Roberts, O. W., Kis, Á., Nakamura, R., & Narita, Y., Magnetic Reconnection Within the Boundary Layer of a Magnetic Cloud in the Solar Wind, *Journal of Geophysical Research (Space Physics)*, 126, e29415, doi:10.1029/2021JA029415, 2021.
105. Wang, R., Vasko, I. Y., Mozer, F. S., Bale, S. D., Kuzichev, I. V., Artemyev, A. V., **Steinvall, K.**, Ergun, R., Giles, B., **Khotyaintsev, Y.**, Lindqvist, P.-A., Russell, C. T., & Strangeway, R., Electrostatic Solitary Waves in the Earth's Bow Shock: Nature, Properties, Lifetimes, and Origin, *Journal of Geophysical Research (Space Physics)*, 126, e29357, doi:10.1029/2021JA029357, 2021.
106. Whiter, D. K., Sundberg, H., Lanchester, B. S., **Dreyer, J.**, Partamies, N., Ivchenko, N., Zaccaria Di Fraia, M., Oliver, R., Serpell-Stevens, A., Shaw-Diaz, T., & Braunersreuther, T., Fine-scale dynamics of fragmented aurora-like emissions, *Annales Geophysicae*, 39, 975, doi:10.5194/angeo-39-975-2021, 2021.



107. Yau, A. W., Abe, T., **André, M.**, Howarth, A. D., & Peterson, W. K., Ionospheric Ion Acceleration and Transport, Magnetospheres in the Solar System, 2, 207, doi:10.1002/9781119815624.ch14, 2021.
108. **Yordanova, E.**, Vörös, Z., **Sorriso-Valvo, L.**, **Dimmock, A. P.**, & Kilpua, E., A Possible Link between Turbulence and Plasma Heating, *The Astrophysical Journal*, 921, 65, doi:10.3847/1538-4357/ac1942, 2021.
109. **Yordanova, E.**, Vörös, Z., **Sorriso-Valvo, L.**, **Dimmock, A. P.**, & Kilpua, E., Erratum: "A Possible Link between Turbulence and Plasma Heating" (2021, ApJ, 921, 65), *The Astrophysical Journal*, 923, 282, doi:10.3847/1538-4357/ac4012, 2021.
110. Zaitsev, I., Divin, A., Semenov, V., Kubyshkin, I., Korovinskiy, D., Deca, J., **Khotyaintsev, Yu.** & Markidis, S., Cold ion energization at separatrices during magnetic reconnection, *Physics of Plasmas*, 28, 032104, doi:10.1063/5.0008118, 2021.
111. Zaslavsky, A., Mann, I., Soucek, J., Czechowski, A., Píša, D., Vaverka, J., Meyer-Vernet, N., Maksimovic, M., Lorfèvre, E., Issautier, K., Rackovic Babic, K., Bale, S. D., Morooka, M., Vecchio, A., Chust, T., **Khotyaintsev, Y.**, Krasnoselskikh, V., Kretzschmar, M., Plettemeier, D., Steller, M., Štverák, Š., Trávníček, P., & Vaivads, A., First dust measurements with the Solar Orbiter Radio and Plasma Wave instrument, *Astronomy and Astrophysics*, 656, A30, doi:10.1051/0004-6361/202140969, 2021.
112. Zhang, L. Q., Wang, C., Dai, L., Fu, H. S., Lui, A. T. Y., Baumjohann, W., Yu, Y., Ren, Y., Burch, J. L., & **Khotyaintsev, Y. V.**, MMS Observation on the Cross Tail Current Sheet Roll up at the Dipolarization Front, *Journal of Geophysical Research (Space Physics)*, 126, e28796, doi:10.1029/2020JA028796, 2021.
113. Zhang, Z., Desai, R. T., Miyake, Y., Usui, H., & **Shebanits, O.**, Particle-in-cell simulations of the Cassini spacecraft's interaction with Saturn's ionosphere during the Grand Finale, *Monthly Notices of the Royal Astronomical Society*, 504, 964, doi:10.1093/mnras/stab750, 2021.
114. Zhong, Z. H., Zhou, M., Deng, X. H., Song, L. J., **Graham, D. B.**, Tang, R. X., Man, H. Y., Pang, Y., **Khotyaintsev, Y. V.**, & Giles, B. L., Three-Dimensional Electron-Scale Magnetic Reconnection in Earth's Magnetosphere, *Geophysical Research Letters*, 48, e0946, doi:10.1029/2020GL090946, 2021.
115. Zhong, Z. H., **Graham, D. B.**, **Khotyaintsev, Y. V.**, Zhou, M., Le Contel, O., Tang, R. X., & Deng, X. H., Whistler and Broadband Electrostatic Waves in the Multiple X Line Reconnection at the Magnetopause, *Geophysical Research Letters*, 48, e91320, doi:10.1029/2020GL091320, 2021.
116. Zhou, M., Man, H. Y., Deng, X. H., Pang, Y., **Khotyaintsev, Y.**, Lapenta, G., Yi, Y. Y., Zhong, Z. H., & Ma, W. Q., Observations of Secondary Magnetic

Reconnection in the Turbulent Reconnection Outflow, *Geophysical Research Letters*, 48, e91215, doi:10.1029/2020GL091215, 2021.

117. Øieroset, M., Phan, T. D., Ergun, R., Ahmadi, N., Genestreti, K., Drake, J. F., Liu, Y.-H., Haggerty, C., Eastwood, J. P., Shay, M. A., Pyakurel, P. S., Haaland, S., Oka, M., Goodbred, M., Eriksson, S., Burch, J. L., Torbert, R. B., **Khotyaintsev, Y.**, Russell, C. T., Strangeway, R. J., Gershman, D. J., & Giles, B. L., Spatial evolution of magnetic reconnection diffusion region structures with distance from the X-line, *Physics of Plasmas*, 28, 122901, doi:10.1063/5.0072182, 2021.

## Theses

1. **Joshua Dreyer**, The composition of Saturn's equatorial ionosphere, Uppsala: Uppsala Universitet, 2021, Licentiate thesis
2. **Louis Richard**, Energy Conversion and Particle Acceleration at Turbulent Plasma Jet Fronts, Uppsala: Uppsala Universitet, 2021, Licentiate thesis
3. Ouahioune, N, Čerenkov emission of whistler waves by electron holes, Uppsala University, Disciplinary Domain of Science and Technology, Physics, Department of Physics and Astronomy. Independent thesis Advanced level (degree of Master (One Year)), 10 credits / 15 HE credits
4. Pal, K., Analysis of magnetic field and electron density fluctuations in the sheaths of CMEs. Observations by Solar Orbiter, Uppsala University, Department of Physics and Astronomy, Project 10 credits / 15 HE credits.
5. Suneson, Oscar, Spatial Variability in the Ionosphere and GNSS Signal Delays in the L-band: A Direct Comparison of In-Situ Satellite- and SWEPOS-Data, Uppsala Universitet, Bachelor degree, 10 credits / 15 HE credits