

Refereed publications 2018

Aikio, A. T., H. Vanhamäki, A. B. Workayehu, I. I. Virtanen, K. Kauristie, L. Juusola, **S. Buchert** and D. Knudsen, Swarm satellite and EISCAT radar observations of a plasma flow channel in the auroral oval near magnetic midnight. *J. Geophys. Res.: Space Physics*, 123, 5140–5158, 2018 doi: 10.1029/2018JA025409, 2018.

Ala-Lahti, M. M., E. K. J. Kilpua, **A. P. Dimmock**, A. Osmane, T. Pulkkinen, and J. Souček, Statistical analysis of mirror mode waves in sheath regions driven by interplanetary coronal mass ejection, *Ann. Geophys.*, 36, 793-808, doi:10.5194/angeo-36-793-2018, 2018.

Alm, L., C. J. Farrugia, K. W. Paulson, M. R. Argall, R. B. Torbert, J. L. Burch, R. E. Ergun, C. T. Russell, R. J. Strangeway, **Y. V. Khotyaintsev**, P.-A. Lindqvist, G. T. Marklund, B. L. Giles, Differing properties of two ion-scale magnetopause flux ropes. *J. Geophys. Res.: Space Physics*, 123, 114–131, doi:10.1002/2017JA024525, 2018.

Alm, L., M. André, A. Vaivads, Y. V. Khotyaintsev, R. B. Torbert, J. L. Burch, R. E. Ergun, P.-A. Lindqvist, C. T. Russell, B. L. Giles and B. H. Mauk, Magnetotail Hall physics in the presence of cold ions. *Geophys. Res. Lett.*, 45, 11,941–11,950, doi: 10.1029/2018GL079857, 2018.

Andrews, D. J., H. J. Opgenoorth, T. Leyser, S. Buchert, N. J. T. Edberg, D. D. Morgan, D. A. Gurnett, A. J. Kopf, K. Fallows and P. Withers, MARSIS observations of field-aligned irregularities and ducted radio propagation in the Martian ionosphere, *J. Geophys. Res.: Space Physics*, 123, 6251–6263, doi: 2018JA025663, 2018.

Andriopoulou, M., R. Nakamura, S. Wellenzohn, K. Torkar, W. Baumjohann, R. B. Torbert, P.-A. Lindqvist, **Yu. V. Khotyaintsev**, J. Dorelli and J. L. Burch, Plasma density estimates from spacecraft potential using MMS observations in the dayside magnetosphere. *J. Geophys. Res.: Space Physics*, 123, 2620–2629, doi:10.1002/2017JA025086, 2018.

Argall, M. R., K. Paulson, L. Alm, A. Rager, J. Dorelli, J. Shuster, S. Wang, R.B. Torbert, H. Vaith, I. Dors, M. Chutter, C. Farrugia, J. Burch, C. Pollock, B. Giles, D. Gershman, B. Lavraud, C.T. Russell, R. Strangeway, W. Magnes, P.-A. Lindqvist, **Yu. V. Khotyaintsev**, R.E. Ergun, N. Ahmadi, Electron dynamics within the electron diffusion region of asymmetric reconnection, *J. Geophys. Res., Space Physics*, 123, 146-162, doi:10.1002/2017JA024524, 2018.

Blanco-Cano, X., M. Battarbee, L. Turc, **A. P. Dimmock**, E. K. J. Kilpua, S. Hoilijoki, U. Ganse, D. G. Sibeck, P. A. Cassak, R. C. Fear, R. Jarvinen, L. Juusola, Y. Pfau-Kempf, R. Vainio, and M. Palmroth, Cavitons and spontaneous hot flow anomalies in a hybrid-Vlasov global magnetospheric simulation, *Ann. Geophys.*, 36, 1081-1097, doi: 10.5194/angeo-36-1081-2018, 2018.

Breuillard, H, and 33 co-authors, including **E. Yordanova, A. Vaivads, Yu. V. Khotyaintsev and D. B. Graham**, New insights into the nature of turbulence in the Earth's magnetosheath using Magnetospheric MultiScale mission data, *The Astrophysical Journal*, 859, 127, doi: 10.3847/1538-4357/aabae8, 2018.

Breuillard, H, and 49 co-authors, including **D. B. Graham and Yu. V. Khotyaintsev**, The properties of lion roars and electron dynamics in mirror mode waves observed by the Magnetospheric MultiScale mission, *J. Geophys. Res.: Space Physics*, 123, 93-103, doi:10.1002/2017JA024551, 2018.

Burch, J. L., and 21 co-authors including **D. B. Graham**, Wave phenomena and beam-plasma interactions at the magnetopause reconnection region. *J. Geophys. Res.: Space Physics*, 123, 1118–1133, doi: 10.1002/2017JA024789, 2018.

Burch, J. L., and 28 co-authors including **D. B. Graham**, Localized oscillatory energy conversion in magnetopause reconnection. *Geophys. Res. Lett.*, 45, 1237–1245, doi: 10.1002/2017GL076809, 2018.

Chasapis, A., W. H. Matthaeus, T. N. Parashar, M. Wan, C. C. Haggerty, C. J. Pollock, B. L. Giles, W. R. Paterson, J. Dorelli, D. J. Gershman, R. B. Torbert, C. T. Russell, P.-A. Lindqvist, **Y. Khotyaintsev**, T. E. Moore, R. R. Ergun, and J. L. Burch, In situ observation of intermittent dissipation at kinetic scales in the Earth's magnetosheath, *Astrophys. J. Lett.*, 856, L19, doi: 10.3847/2041-8213/aaadf8, 2018.

Chen, L.-J. and 31 co-authors, including **Yu. V. Khotyaintsev**, Electron bulk acceleration and thermalization at Earth's quasiperpendicular bow shock, *Phys. Rev. Lett.*, 120, 22, 225101, doi:10.1103/PhysRevLett.120.225101, 2018.

Dimmock, A. P., M. Alho, E. Kallio, S. A. Pope, T. L. Zhang, E. Kilpua,T. I. Pulkkinen, y. Futaana and A. J. Coates, The response of the Venusian plasma environment to the passage of an ICME: Hybrid simulation results and Venus Express observations. *J. Geophys. Res.: Space Physics*, 123, 3580–3601, doi: 10.1029/2017JA024852

Edberg, N. J. T., E. Vigren, D. Snowden, L. H. Regoli, **O. Shebanits, J.-E. Wahlund, D. J. Andrews**, C. Bertucci and J. Cui, Titan's variable ionosphere during the T118 and T119 Cassini flybys. *Geophys. Res. Lett.*, 45, 8721–8728, doi:10.1029/2018GL078436, 2018.

Engelhardt, I. A. D., A. I. Eriksson, G. Stenberg Wieser, C. Goetz, M. Rubin, P. Henri, H. Nilsson, **E. Odelstad**, R. Hajra, X. Vallières, Plasma density structures at comet 67P/Churyumov–Gerasimenko, *Monthly Notices of the Royal Astronomical Society*, 477,1, Pages 1296-1307, doi:10.1093/mnras/sty765, 2018.

Engelhardt, I. A. D., A. I. Eriksson, E. Vigren, X. Vallières, M. Rubin, N. Gilet and P. Henri, Cold electrons at comet 67P Churyumov-Gerasimenko, *Astronomy&Astrophysics*, 66, A51, doi: 10.1051/0004-6361/201833251, 2018.

Ergun, R. E., and 29 co-authors including **A. Vaivads**, Magnetic reconnection, turbulence, and particle acceleration: Observations in the Earth's magnetotail, *Geophys. Res. Lett.*, 45, 3338–3347, doi: 10.1002/2018GL076993, 2018.

Eriksson, E., A. Vaivads, D. B. Graham, A. Divin, Y. V. Khotyaintsev, E. Yordanova, M. André, B. L. Giles, C. J. Pollock, C. T. Russell, O. Le Contel, R. B. Torbert, R. E. Ergun, P-A. Lindqvist and J. L. Burch, Electron energization at a reconnecting magnetosheath current sheet, *Geophys. Res. Lett.*, 45, 8081-8090. doi:10.1029/2018GL078660, 2018.

Farrugia, C. J., and 20 co-authors including **L. Alm and Y. V. Khotyaintsev**, Effects in the near-magnetopause magnetosheath elicited by large-amplitude Alfvénic fluctuations terminating in a field and flow discontinuity. *J. Geophys. Res.: Space Physics*, 123, doi: 10.1029/2018JA025724, 2018.

Farrell, W. M., **L. Z. Hadid, Z., M. W. Morooka**, W. S. Kurth, **J.-E. Wahlund**, R. J. MacDowall, A. H. Sulaiman, A. M. Persoon and D. A. Gurnett, Saturn's plasma density depletions along magnetic field lines connected to the main rings. *Geophys. Res. Lett.*, 45, 8104–8110, doi: 10.1029/2018GL078137, 2018.

Fu, H. S., Cao, J. B., Cao, D., Wang, Z., **Vaivads, A., Khotyaintsev, Y. V.**, Burch, J. L., and Huang, S. Y., Evidence of magnetic nulls in electron diffusion region. *Geophys. Res. Lett.*, 45, doi: 10.1029/2018GL080449, 2018.

Futaana, Y,m S. Barabash, M. Wieser, P.Wurz, D. Hurley, M. Horányi, U. Mall, N. André, N. Ivchenko, J. Oberst, K. Rutherford, A. Coates, A. Maters, **J.-E. Wahlund**, E. Kallio and SELMA proposal team, SELMA mission: How do airless bodies interact with space environment? The Moon as an accessible laboratory, *Plan. Space Sci.*, 156, 23-40, doi: 10.1016/j.pss.2017.11.002, 2018.

Genestreti, K. J., and 22 co-authors including **Y. Khotyaintsev**, MMS observation of asymmetric reconnection supported by 3-D electron pressure divergence. *J. Geophys. Res.: Space Physics*, 123, 1806–1821, doi: 10.1002/2017JA025019, 2018.

Goodrich, K. A.,R. Ergun, S. J. Schwartz, L. B. III Wilson, D. Newman, F. D. Wilder, J. Holmes, **A. Johlander**, J. Burch, R. Torbert, **Y. Khotyaintsev**, P.-A. Lindqvist, R. Strangeway, C. Russell, D. Gershman, B. Giles and L. Andersson, MMS observations of electrostatic waves in an oblique shock crossing, *J. Geophys. Res.: Space Physics*, 123, doi: 10.1029/2018JA025830, 2018.

Graham, D. B., A. Vaivads, Y. V. Khotyaintsev, M. André, O. Le Contel, D. M. Malaspina, P.-A. Lindqvist, F. D. Wilder, R. E. Ergun, D. J. Gershman, B. L. Giles, W. Magnes, C. T. Russell, J. L. Burch and R. B. Torbert, Large-amplitude high-frequency waves at Earth's magnetopause. *J. Geophys. Res.: Space Physics*, 123, 2630–2657, doi:10.1002/2017JA025034, 2018.

Graham, D. B., A. Vaivads, Y. V. Khotyaintsev, A. I. Eriksson, M. André, D. M. Malaspina, P.-A. Lindqvist, D. J. Gershman and F.

Plaschke, Enhanced escape of spacecraft photoelectrons caused by Langmuir and upper hybrid waves. *J. Geophys. Res.: Space Physics*, 123, 7534–7553, doi: 10.1029/2018JA025874, 2018.

Grigorenko, E. E., S. Dubyagin, A. Y. Malykhin, **Y. V. Khotyaintsev**, E. A. Kronberg, B. Lavraud, and N. Y. Ganushkina.. Intense current structures observed at electron kinetic scales in the near-Earth magnetotail during dipolarization and substorm current wedge formation. *Geophys. Res. Lett.*, 45, 602–611, doi: 10.1002/2017GL076303, 2018.

Gunell, H., C. Goetz, C. S. Wedlund, J. Lindkvist, M. Hamrin, H. Nilsson, K. Liera, **A. Eriksson** and M. Holmström, The infant bow shock: a new frontier at a weak activity comet, *Astronomy&Astrophysics*, 619, L2, doi: 10.1051/0004-6361/201834225, 2018.

Habarulema, J. B., E. Yizengaw, Z. T. Katamzi-Joseph, M. B. Moldwin, and S. **Buchert**, Storm time global observations of large-scale TIDs from ground-based and in situ satellite measurements. *J. Geophys. Res. Space Physics*, 123, 711–724, doi: 10.1002/2017JA024510, 2018

Hadid L. Z., F. Sahraoui, and S. Galtier and S. Y. Huang,
Compressible magnetohydrodynamic turbulence in the Earth's magnetosheath: estimation of the energy cascade rate using in-situ spacecraft data, *Phys. Rev. Lett.*, 120, 055102, doi:10.1103/PhysRevLett.120.055102, 2018.

Hadid, L. Z., M. W. Morooka, J.-E. Wahlund, L. Moore, T. E. Cravens, M. M. Hedman, **N. J. T. Edberg, E. Vigren**, J. H. Waite Jr., R. Perryman, W. S. Kurth, W. M. Farrell and **A. I. Eriksson**, Ring shadowing effects on Saturn's ionosphere: Implications for ring opacity and plasma transport. *Geophys. Res. Lett.*, 45, 10,084–10,092, doi: 10.1029/2018GL079150, 2018.

Hajra, R., and 16 co-authors, including **N. J. T. Edberg and A. I. Eriksson**, Cometary plasma response to interplanetary corotating interaction regions during 2016 June–September: a quantitative study by the Rosetta Plasma Consortium, *Monthly Notices of the Royal Astronomical Society*, 480, 4544–4556, doi: 10.1093/mnras/sty2166, 2018.

Hajra, R., and 14 co-authors, including **A. I. Eriksson**, Dynamic unmagnetized plasma in the diamagnetic cavity around comet 67P/Churyumov–Gerasimenko, *Monthly Notices of the Royal Astronomical Society*, 475, 4140–4147, doi: 10.1093/mnras/sty094, 2018.

Hasegawa, H., and 17 co-authors including **Y. V. Khotyaintsev**, Reconstruction of the electron diffusion region of magnetotail reconnection seen by the MMS spacecraft on 11 July 2017, *J. Geophys. Res.: Space Physics*, 123, doi: 10.1029/2018JA026051, 2018.

Heritier, K. L., M. Galand, P. Henri, **F. L. Johansson**, A. Beth, **A. I. Eriksson**, X. Vallières, K. Altwegg, J. L. Burch, C. Carr, E. Ducrot, R. Hajra and

M. Rubin, Plasma source and loss at comet 67P during the Rosetta mission, *Astronomy&Astrophysics*, 618, A77, doi: 10.1051/0004-6361/201832881, 2018.

Heritier K. L., K Altwegg, J.-J. Berthelier, A. Berth, C. M. Carr, J. DE Keyser, **A. I. Eriksson**, S. A. Fuselier, M. Galand, T. I. Gombosi, P. Henri, **F. L. Johansson**, H. Nilsson, C. Simon Wedlund, M. G. G. T. Taylor and **E. Vigren**, On the origin of molecular oxygen in cometary comae, *Nature Communications*, 9, 2580 doi:10.1038/s41467-018-04972-5, 2018.

Herique, A., and 57 co-authors, including **J.-E. Wahlund**, Direct observations of asteroid interior and regolith structure: Science measurement requirements, *Adv. Space Res.*, 62, 2141-2162, doi: 10.1016/j.asr.2017.10.020, 2018.

Hwang, K.-J., D. G. Sibeck, J. L. Burch, E. Choi, R. C. Fear, B. Lavraud, B. L. Giles, D. Gershman, C. J. Pollock, J. P. Eastwood, **Y. Khotyaintsev**, P. Escoubet, H. Fu, S. Toledo-Redondo, R. B. Torbert, R. E. Ergun, W. R. Paterson, J. C. Dorelli, L. Avanov, C. T. Russell and R. J. Strangeway, Small-scale flux transfer events formed in the reconnection exhaust region between two X lines. *J. Geophys. Res.: Space Physics*, 123, 8473–8488. doi:10.1029/2018JA025611, 2018.

Jakosky, B., and 131 co-authors, including **D. Andrews and A. Eriksson**, Loss of the Martian atmosphere to space: Present-day loss rates determined from MAVEN observations and integrated loss through time, *Icarus*, 315, 146-157, doi: 10.1016/j.icarus.2018.05.030, 2018.

Johlander, A., A. Vaivads, Yu. V Khotyaintsev, I. Gingell, S. J. Schwartz, B. L Giles, R. B. Torbert, C. T. Russell, Shock ripples observed by the MMS spacecraft: ion reflection and dispersive properties. *Plasma Physics and Controlled Fusion*, 60, 125006. doi: 10.1088/1361-6587/aae920, 2018

Kacem, I., and 33 co-authors including **D. B. Graham**, Magnetic reconnection at a thin current sheet separating two interlaced flux tubes at the Earth's magnetopause. *J. Geophys. Res.: Space Physics*, 123, 1779–1793, doi: 10.1002/2017JA024537, 2018.

Lakka, A., T. i. Pulkkinen, **A. P. Dimmock**, M. Myllys, I. Honkonen, and M. Palmroth, The cross-polar cap saturation in GUMICS-4 during high solar wind driving. *J. Geophys. Res.: Space Physics*, 123, 3320–3332, doi: 10.1002/2017JA025054, 2018.

Lamy, L., P. Zarka, B. Cecconi, R. Prangé, W. S. Kurth, G. Hospodarsky, A. Persoon, **M. Morooka, J.-E. Wahlund** and G. J. Hunt, The low-frequency source of Saturn's kilometric radiation, *Science*, 362, 6410, eaat2027, doi:10.1126/science.eaat2027, 2018.

Li, K., Y. Wei, S. Haaland, E. A. Kronberg, Z. J. Rong, L. Maes, L., R. Maggiolo, **M. André**, H. Nilsson and E. Grigorenko, Estimating the kinetic energy budget of the

polar wind outflow. *J. Geophys. Res.: Space Physics*, 123, 7917–7929, doi: 10.1029/2018JA025819, 2018.

Liemohn, M. W., J. P. McCollough, V. K. Jordanova, C. M. Ngwira, S. K. Morley, C. Cid, W. K. Tobiska, P. Wintoft, N. Y. Ganushkina, D. T. Welling, S. Bingham, M. Balikhin, **H. Opgenoorth**, M. Engel, R. S. Weigel, H. J. Singer, D. Buresova, S. Bruinsma, I. Zhelavskaya, Y. Y. Shprits, and R. Vasile, Model evaluation guidelines for geomagnetic index predictions, 16, *Space Weather*, doi: 10.1029/2018SW002067, 2018.

Liu, C. M., H. S. Fu, **A. Vaivads, Y. V. Khotyaintsev**, D. J. Gershman, K.-J. Hwang, Z. Z. Chen, D. Zao, Y. Xu, J. Yang, F. Z. Peng, S. Y. Huang, J. L. Burch, B. L. Giles, R. E. Ergun, C. T. Russell, P.-A. Lindqvist and O. Le Contel, Electron jet detected by MMS at dipolarization front. *Geophysical Research Letters*, 45, 556–564., doi:10.1002/2017GL076509, 2018.

Liu, C. M., H. S. Fu, Y. Xu, **Y. V. Khotyaintsev**, J. L. Burch, R. E. Ergun, D. G. Gershman and R. B. Torbert, Electron-scale measurements of dipolarization front. *Geophys. Res. Lett.*, 45, 4628–4638, 10.1029/2018GL077928, 2018.

Lomidze, L., D. J. Knudsen, J. Burchill, A. Kouznetsov, and **S. C. Buchert**, Calibration and validation of Swarm plasma densities and electron temperatures using ground-based radars and satellite radio-occultation measurements, *Radio Science*, 52, doi:10.1002/2017RS006415, 2018.

Madsen, B., C. L. Simon Wedlund, **A. I. Eriksson**, C. Goetz, T. Karlsson, H. Gunell, A. Spicher, P. Henri, X. Vallières and W. J. Miloch, Extremely low-frequency waves inside the diamagnetic cavity of comet 67P/Churyumov-Gerasimenko, *Geophys. Res. Lett.*, 45, 3854–3864, doi: 10.1029/2017GL076415, 2018.

Mann, I. R., S. Di Pippo, **H. J. Opgenoorth**, M. Kuznetsova, and D. J. Kendall, International collaboration within the United Nations Committee on the Peaceful Uses of Outer Space: Framework for international space weather services (2018–2030). *Space Weather*, 16, 428-433, doi: 10.1029/2018SW001815, 2018.

Marqué, C. K.-L. Klein, C. Monstein, **H. Opgenoorth**, A. Pulkkinen, **S. Buchert**, S. Krucker, R. Van Hoof and P. Thulesen, Solar radio emission as a disturbance of aeronomical radionavigation, *J. Space Weather Space Clim.*, 8, A42, doi: 10.1051/swsc/2018029 , 2018.

Menietti, J. D., T. F. Averkamp, S.-Y. Ye, A. H. Sulaiman, M. W. Morooka, A. M. Persoon, G. B. Hospodarsky, W. S. Kurth, D. A. Gurnett and **J.-E. Wahlund**, Analysis of intense Z-mode emission observed during the Cassini proximal orbits. *Geophys. Res. Lett.*, 45, 6766–6772, doi: 10.1002/2018GL077354, 2018.

Menietti, J. D., T. F. Averkamp, S.-Y. Ye, A. M. Persoon, **M. W. Morooka**, J. B. Groene and W. S. Kurth, Extended survey of Saturn Z-mode wave intensity through

Cassini's final orbits, *Geophys. Res. Lett.*, 45, 7330–7336, doi: 10.1029/2018GL079287, 2018

Mitchell, D. G., M. E. Perry, D. C. Hamilton, J. H. Westlake, P. Kollmann, H. T. Smith, J. F. Carbary, J. H. Waite, R. Perryman, H.-W. Hsu, **J.-E. Wahlund, M. Morooka, L. Z. Hadid**, A. M. Persoon, and W. S. Kurth, Dust grains fall from Saturn's D-ring into its equatorial upper atmosphere, *Science*, 362, 6410, eaat2236, doi: 10.1126/science.aat2236.

Moore, L., T. E. Cravens, I. Müller-Wodarg, M. E. Perry, J. H. Waite Jr., R. Perryman, A. Nagy, D. Mitchell, A. Persoon, **J.-E. Wahlund and M. W. Morooka**, Models of Saturn's equatorial ionosphere based on in situ data from Cassini's Grand Finale, *Geophys. Res. Lett.*, 45, 9398–9407, doi: 10.1029/2018GL078162, 2018.

Morooka, M. W., J.-E. Wahlund, D. J. Andrews, A. M. Persoon, S.-Y. Ye, W. S. Kurth, D. A. Gurnett and W. M. Farrell, The dusty plasma disk around the Janus/Epimetheus ring, *J. Geophys. Res.: Space Physics*, 123, 4668–4678, doi: 10.1002/2017JA024917, 2018

Nakamura, R., and 36 co-authors, including **Yu. V. Khotyaintsev**, Multiscale currents observed by MMS in the flow braking region. *J. Geophys. Res. Space Physics*, 123, 1260–1278, doi:10.1002/2017JA024686, 2018.

Nilsson, H., H. Gunell, T. Karlsson, N. Brenning, P. Henri, C. Goetz, **A. I. Eriksson**, E. Behar, G. Wieser Stenberg and X. Vallières, Size of a plasma cloud matters. The polarisation electric field of a small-scale comet ionosphere, *Astronomy&Astrophysics*, 616, A50, doi: 10.1051/0004-6361/201833199, 2018.

Noonan, J. W., and 15 co-authors, including **N. J. T. Edberg**, Ultraviolet observations of coronal mass ejection impact on comet 67P/Churyumov–Gerasimenko by Rosetta Alice, *The Astronomical Journal*, 156, 16, doi:10.3847/1538-3881/aac432, 2018.

Norgren, C., D. B. Graham, Y. V. Khotyaintsev, M. André, A. Vaivads, M. Hesse, **E. Eriksson**, P.-A. Linqvist, B. Lavraud, J. Burch, S. Fuselier, W. Magnes, D. J. Gershman and C. T. Russell, Electron reconnection in the magnetopause current layer, *J. Geophys. Res.: Space Physics*, 9222-9238, 123, doi: 10.1029/2018JA025676, 2018.

Odelstad, E., A. I. Eriksson, F. L. Johansson, E. Vigren, P. Henri, N. Gilet, K. L. Heriter, X. Vallières, M. Rubin and **M. André**, Ion velocity and electron temperature inside and around the diamagnetic cavity of comet 67P. *J. Geophys. Res.: Space Physics*, 123, 5870–5893, doi:10.1029/2018JA025542, 2018.

Oka, M., J. Birn, M. Battaglia, C. C. Chaston, S. M. Hatch, G. Livadiotis, S. Imada,

Y. Miyoshi, M. Kuhar, F. Effenberger, **E. Eriksson, Y. V. Khotyaintsev** and A. Retinò, Electron power-law spectra in solar and space plasmas, *Space Sci. Rev.*, 214, 82, doi: 10.1029/2018JA025542, 2018.

Pan, D.-X., Y. V. Khotyaintsev, D. B. Graham, A. Vaivads, X.-Z. Zhou, **M. André**, P.-A. Lindqvist, R. E. Ergun, O. Le Contel, C. T. Russell, R. B. Torbert, B. Giles, J. L. Burch, Rippled electron-scale structure of a dipolarization front. *Geophys. Res. Lett.*, 45, doi:10.1029/2018GL080826, 2018.

Phan, T. D., and 30 co-authors including **Y. Khotyaintsev**, Electron magnetic reconnection without ion coupling in Earth's turbulent magnetosheath, *Nature*, 557, 202-206, doi:10.1038/s41586-018-0091-5, 2018

Plaschke, F., T. Karlsson, C. Götz, C. Möstl, I. Richter, M. Volwerk, **A. Eriksson**, E. Behar and R. Goldstein, First observations of magnetic holes deep within the coma of a comet, *Astronomy&Astrophysics*, 618, A114, doi:10.1051/0004-6361/201833300, 2018.

Rajkumar, H., P. Henri, M. Myllis, K. L. Héritier, M. Galand, C. S. Wedlund, H. Breuillard, E. Behar, **N. J. T. Edberg**, C. Goetz, H. Nilsson, **A. I. Eriksson**, R. Goldstein, B. T. Tsurutani, J. Moré, X. Vallières and G. Wattieaux, Cometary plasma response to interplanetary corotating interaction regions during 2016 June–September: a quantitative study by the Rosetta Plasma Consortium, *Monthly Notices of the Royal Astronomical Society*, Volume 480,4, doi:10.1093/mnras/sty2166, 2018.

Royer, E. M., L- W. Esposito, F. Crary and **J.-E. Wahlund**, Enhanced airglow signature observed at Titan in response to its fluctuating magnetospheric environment. *Geophys. Res. Lett.*, 45, 8864–8870, doi:10.1029/2018GL078870, 2018.

Schwartz S. J., and 26 co-authors including **A. Johlander, Y. V. Khotyaintsev and A. Vaivads**, Ion kinetics in a hot flow anomaly: MMS observations, *Geophys. Res. Lett.*, 45, 11,520–11,529, doi: 10.1029/2018GL080189, 2018.

Steinvall, K., Yu. V. Khotyaintsev, D. B. Graham, A. Vaivads, P.-A. Lindqvist, C. T. Russell, and J. L. Burch, Multi-Spacecraft analysis of electron holes, *Geophys. Res. Lett.*, in press, doi: 10.1029/2018GL080757, 2018

Tang, B., W. Li, C. Wang, L. Dai, **Y. Khotyaintsev**, P.-A. Lindqvist, R. Ergun, O. Le Contel, C. Pollock, C. Russell, and J. Burch, Magnetic depression and electron transport in an ion-scale flux rope associated with Kelvin–Helmholtz waves, *Ann. Geophys.*, 36, 879-889, doi:10.5194/angeo-36-879-2018, 2018.

Toledo-Redondo, S., and 10 co-authors including **M. André**, Perpendicular current reduction caused by cold ions of ionospheric origin in magnetic reconnection at the magnetopause: Particle-in-cell simulations and spacecraft observations. *Geophys. Res. Lett.*, 45, 10,033–10,042, doi: 10.1029/2018GL079051, 2018.

Torbert, R. B., and 49 co-authors, including **L. Alm and Yu. V. Khotyaintsev**, Electron-scale dynamics of the diffusion region during symmetric magnetic reconnection in space. *Science*, eaat2998, doi: 10.1126/science.aat2998, 2018.

Vigren, E., Analytic model of comet ionosphere chemistry, *Astronomy&Astrophysics*, 616, A59, doi: 10.1051/0004-6361/201832704, 2018.

Voshchepynets, A., S. Barabash, R. Ramstad, M. Hölmstrom, **D. Andrews**, G. Nicolaou, R. A. Frahm, A Kopf and D. Gurnett, Ions accelerated by sounder-plasma interaction as observed by Mars Express, *J. Geophys. Res.: Space Physics*, 123, doi: 2018JA025889, 2018.

Waite, J. H., R. S. Perryman, M. E. Perry, K. E. Miller, J. Bell, T. E. Cravens, C. R. Glein, J. Grimes, M. Hedman, J. Cuzzi, T. Brockwell, B. Teolis, L. Moore, D. G. Mitchell, A. Persoon, W. S. Kurth, **J.-E. Wahlund, M. Morooka, L. Z. Hadid**, S. Chocron, J. Walker, A Nagy, R. Yelle, S. Ledvina, R. Johnson, W. Tseng, O. J. Tucker and W.-H. Ip, Chemical interactions between Saturn's atmosphere and its rings, *Science*, 362, 6410, eaat2382, doi:10.1126/science.aat2382, 2018.

Wang, X., J. L. Samaniego, H.-W. Hsu, M. Horányi, **J.-E. Wahlund**, R. E Ergun, and E. A. Bering, Development of a double hemispherical probe for improved space plasma measurements, *J. Geophys. Res.: Space Physics*, 123, 2916–2925, doi: 10.1029/2018JA025415, 2018.

Webster, J. M., and 23 co-authors including **D. B. Graham**, Magnetospheric Multiscale dayside reconnection electron diffusion region events, *J. Geophys. Res.: Space Physics*, 123, 4858–4878, doi: 10.1029/2018JA025245

Welling D. T., C. M. Ngwira, **H. Opgenoorth**, J. D. Haiducek, N. P. Savani, S.~K. Morley, C. Cid, R.S. Weigel, J. M. Weygand, J. R. Woodroffe, H.J. Singer, L. Rosenqvist, M.W. Liemohn, Recommendations for next-generation ground magnetic perturbation validation, *Space Weather*, doi: 10.1029/2018SW002064, 2018.

Wilder, F. D., and 15 co-authors including **Y. V. Khotyaintsev**, The role of the parallel electric field in electron-scale dissipation at reconnecting currents in the magnetosheath, *J. Geophys. Res.: Space Physics*, 123, 6533–6547, doi: 10.1029/2018JA025529, 2018.

Ye, S.-Y., W. S Kurth, G. B. Hospodarsky, A. M. Persoon, D. A. Gurnett, **M. Morooka, J.-E. Wahlund**, H.-W. Hsu, M. Seiss and R. Srama, Cassini RPWS dust observation near the Janus/Epimetheus orbit. *J. Geophys. Res.: Space Physics*, 123, 4952–4960, doi: 10.1029/2017JA025112, 2018.

Ye, S.-Y., W. S. Kurth, G. B. Hospodarsky, A. M. Persoon, A. H. Sulaiman, D. A. Gurnett, **M. Morooka, J.-E. Wahlund**, H.-W. Hsu, Z. Sternovsky, X. Wang, M. Horanyi, M. Seiss and R. Srama, Dust observations by the Radio and Plasma Wave Science instrument during Cassini's Grand Finale. *Geophysical Research Letters*, 45, 10,101–10,109, doi: 10.1029/2018GL078059, 2018.

Zhao, J. S., T. Y. Wang, M. W. Dunlop, J. S. He, X. C. Dong, D. J. Wu, **Yu. V. Khotyaintsev**, R. E. Ergun, C. T. Russell, B. L. Giles, R. B. Torbert, and J. L. Burch, Modulation of ion and electron pitch angle in the presence of large-amplitude, low-frequency, left-hand circularly polarized electromagnetic waves observed by MMS, *Astrophysical Journal*, 857, 58, doi:0000-0002-3859-6394, 2018.

Zhong, Z. H., R. X. Tang, M. Zhou, X. H. Deng, Y. Pang, W. R. Paterson, B. L. Giles, J. L. Burch, R. B. Tobert, R. E. Ergun, **Y. V. Khotyaintsev**, and P.-A. Lindquist, Evidence for Secondary Flux Rope Generated by the Electron Kelvin-Helmholtz Instability in a Magnetic Reconnection Diffusion Region, *Phys. Rev. Lett.* 120, 075101, doi: 10.1103/PhysRevLett.120.075101, 2018

Zhou, M., and 20 co-authors including **D. B. Graham**, Magnetospheric Multiscale observations of an ion diffusion region with large guide field at the magnetopause: Current system, electron heating, and plasma waves. *J. Geophys. Res.: Space Physics*, 123, 1834–1852, doi: 10.1002/2017JA024517, 2018.

PhD theses 2018

Iika A. D. Engelhardt, Plasma and dust around icy moon Enceladus and comet 67P/Churyumov-Gerasimenko, PhD thesis, Uppsala university, Acta Universitatis Upsaliensis, ISBN: 978-91-513-0346-8, 2018.

Elin Eriksson, Electron energization in near-Earth space: Studies of kinetic scales using multi-spacecraft data, PhD thesis, Uppsala university, Acta Universitatis Upsaliensis, ISBN: 978-91-513-0437-3, 2018.

Elias Odelstad, Plasma environment of an intermediately active comet: Evolution and dynamics observed by ESA's Rosetta spacecraft at 67P/Churyumov-Gerasimenko, PhD thesis, Uppsala university, Acta Universitatis Upsaliensis, ISBN: 978-91-513-0386-4, 2018.

Undergraduate Diploma theses 2019 (examensarbeten och projektarbeten) (Supervisor from IRF)

Werner, Elisabeth, Modeling the complex ejecta on 2017 September 6-9 with WSA-ENLIL+Cone and EUHFORIA, *Undergraduate Diploma thesis, Uppsala university and Swedish Institute of Space Physics*, 2018.

Kvarnström, Joakim, Searching for Titan's tail, *Undergraduate Diploma thesis, Uppsala university and Swedish Institute of Space Physics*, 2018.

Al Moulla, Khaled, Turbulence at MHD and sub-ion scales in the magnetosheath of Saturn: a comparative study between quasi-perpendicular and

quasi-parallel bow shocks using in-situ Cassini data, *Undergraduate Diploma thesis, Uppsala university and Swedish Institute of Space Physics*, 2018.

Conference proceedings 2018

Futaana, Y., Wang, X.-D., Roussos, E., Krupp, N., **Wahlund, J.-E., Agren, K.**, Fränz, M., Barabash, S., Lei, F., Heynderickx, D., Truscott, P., Cipriani, F., Rodgers, D., Corotation Plasma Environment Model: An Empirical Probability Model of the Jovian Magnetosphere, *IEEE Transactions on Plasma Science*, 46 (6), pp. 2126-2145, doi: 10.1109/TPS.2018.2831004, 2018.

Huang, S.Y., Yuan, Z.G., Fu, H.S., **Vaivads, A.**, Sahraoui, F., **Khotyaintsev, Y.V.**, Retino, A., Zhou, M., Graham, D., Fujimoto, K., Deng, X.H., Ni, B.B., Pang, Y., Fu, S., Wang, D.D., Observations of Whistler Waves in the Magnetic Reconnection Diffusion Region, 2018 2nd URSI Atlantic Radio Science Meeting, AT-RASC 2018, art. no. 8471382, doi: 10.23919/URSI-AT-RASC.2018.8471382, 2018