

EFW publications 2004

Refereed papers, published (members of the PI team are given in boldface)

Aikio, A. T., K. Mursula, **S. Buchert**, F. Forme, O. Amm, G. Marklund,, M. Dunlop, D. Fontaine, **A. Vaivads** and A. Fazakerley, Temporal evolution of two auroral arcs as measured by the Cluster satellite and coordinated ground-based instruments, *Ann. Geophys.*, 22, 4089-4101, 2004.

André, M., A. Vaivads, S. C. Buchert, A. N. Fazakerley, and A. Lahiff,
Thin electron-scale layers at the magnetopause, *Geophys. Res. Lett.*, 31, L03803
doi:10.1029/2003GL018137, 2004.

Backrud, M., M. André, A. Balogh, **S. Buchert**, N. Cornilleau-Wehrlin and **A. Vaivads**, Identification of broad-band waves above the auroral acceleration region: Cluster observations, *Ann. Geophys.*, 22, 4203-4216, 2004.

Behlke, R., M. André, S.D. Bale, J.S. Pickett, C.A. Cattell, E.A. Lucek and A. Balogh, Solitary structures associated with short large-amplitude magnetic structures (SLAMS) upstream of the Earth's bow shock, *Geophys. Res. Lett.*, 31, L16805, doi:10.1029/2004GL019524, 2004.

Bogdanova, Y. V., A. N. Fazakerley, C. J. Owen, B. Klecker, N. Cornilleau-Wehrlin, B. Grison, **M. André**, P. Cargill, H. Rème, J. M. Bosqued, L. M. Kistler, A. Balogh, Correlation between suprathermal electron bursts, broadband extremely low frequency waves, and local ion heating in the midlatitude cleft/low-latitude boundary layer observed by Cluster, *J. Geophys. Res.*, 109, doi:10.1029/2004JA010554, 2004.

Carozzi, T. D., A. M. Buckley and M. P. Gough, Instantaneous local wave vector estimation from multi-spacecraft measurements using few spatial points, *Ann. Geophys.*, 22, 2633-2641, 2004.

Darrouzet, F., P. M. E. Décréau, J. De Keyser, A. Masson, D. L. Gallagher, O. Santolik, B. R. Sandel, J. G. Trotignon, J. L. Rauch, E. Le Guirriec, P. Canu, F. Sedgemore, **M. André**, and J. F. Lemaire, Density structures inside the plasmasphere: Cluster observations, *Ann. Geophys.*, 22, 2577-2585.

De Keyser, J., **G. Gustafsson**, M. Roth, F. Darrouzet, M. Dunlop, H. Rème, A. Fazakerley, P. Décréau and N. Cornilleau-Wehrlin, Reconstruction of the magnetopause and low-latitude boundary layer topology using Cluster multi-point measurements, *Ann. Geophys.*, 22, 2381-2389, 2004.

Eriksson, S., M. Øieroset, D. N. Baker, C. Mouikis, **A. Vaivads**, M. W. Dunlop, H. Rème, R. E. Ergun, and A. Balogh, Walén and slow-mode shock analyses in the near-Earth magnetotail in connection with a substorm onset on 27 August 2001, *J. Geophys. Res.*, 109, A10212, [doi:10.1029/2004JA010534](https://doi.org/10.1029/2004JA010534), 2004.

Eriksson, S., S. R. Elkington, T. D. Phan, S. M. Petrinec, H. Reme, M. W. Dunlop, M. Wiltberger, A. Balogh, R. E. Ergun, and **M. André**, Global control of merging by the IMF: Cluster observations of dawnside flank magnetopause reconnection, *J. Geophys. Res.*, 109, A12203, doi:10.1029/2003JA010346, 2004.

Haaland, S., B. U. Ö. Sonnerup, M. W. Dunlop, E. Georgescu, G. Paschmann, B. Klecker, and **A. Vaivads**, Orientation and motion of a discontinuity from Cluster curlometer capability: Minimum variance of current density, *Geophys. Res. Lett.*, 31, L10804, [doi:10.1029/2004GL020001](https://doi.org/10.1029/2004GL020001), 2004.

Haaland, S., B. Sonnerup, M. Dunlop, A. Balogh, E. Georgescu, H. Hasegawa, B. Klecker, G. Paschmann, P. Puhl-Quinn, H. Rème, H. Vaith, and **A. Vaivads**, Four-spacecraft determination of magnetopause orientation, motion and thickness: comparison with results from single-spacecraft methods *Ann. Geophysicae*, 2004 ,22 , 1347-1365

Karlsson, T., G. T. Marklund, S. Figueiredo, T. Johansson, and **S. Buchert**, Separating spatial and temporal variations in auroral electric and magnetic fields by Cluster multipoint measurements, *Ann. Geophys.*, 22, 2463-2472, 2004.

Khotyaintsev, Y., A. Vaivads, Y. Ogawa, B. Popielawska, M. André, S. Buchert, P. Décréau, B. Lavraud, H. Rème, Cluster observations of high-frequency waves in the exterior cusp, *Ann. Geophys.*, 22, 2403-2411, 2004.

Khotyaintsev, Y.; Buchert, S.; Stasiewicz, K.; Vaivads, A.; Savin, S.; Papitashvili, V. O.; Farrugia, C. J.; Popielawska, B.; Tung, Y.-K., Transient reconnection in the cusp during strongly negative IMF By, *J. Geophys. Res.*, 109, A04204, 10.1029/2003JA009908, 2004.

Kim, K.-H., C. A. Cattell, D.-H. Lee, A. Balogh, E. Lucek, **M. André, Y. Khotyintsev, H. Rème**, Cluster observations in the magnetotail during sudden and quasiperiodic solar wind variations, *J. Geophys. Res.*, 109, A04219, 10.1029/2003JA010328, 2004.

Marklund, G. T., T. Karlsson, S. Figueiredo, T. Johansson, P.-A. Lindqvist, **M. André, S. Buchert, L. M. Kistler and A. Fazakerley**, Characteristics of Quasi-Static Potential Structures Observed in the Auroral Return Current Region by Cluster, *Nonlinear Processes in Geophysics*, 11, 709-720, SRef-ID:1607-7946/npg/2004-11-709, 2004.

Morooka, M., M. André, J.-E. Wahlund, S. Buchert, A. N. Fazakerley, J. D. Winningham, H. Rème, J. Dandouras, B. Lavraud, A. Balogh, K. Igenbergs, Cluster observations of ULF waves with pulsating electron beams above the high latitude dusk-side auroral region, *Geophys. Res. Lett.*, 31(5), L05804, doi:10.1029/2003GL017714, 2004.

Pickett, J.S., S. W. Kahler, L.-J. Chen, R. L. Huff, O. Santolik, **Y. Khotyaintsev**, P. M. E. Décréau, D. Winningham, R. Frahm, M. L. Goldstein, G.S. Lakhina, B.T. Tsurutani, B. Lavraud, D.A. Gurnett, **M. André**, A. Fazakerley, A. Balogh, and H. Rème, Waves observed in the auroral zone: The cluster multi-spacecraft perspective, *Nonl. Proc. Geophys.*, 11, 183-196, 2004.

Pickett, J. S., O. Santolik, S. W. Kahler, A. Masson, M. L. Adrian, D. A. Gurnett, T. F. Bell, H. Laakso, P. Décréau, A. Fazakerley, N. Cornilleau-Wehrlein, A. Balogh and **M. André**, Multi-point Cluster observations of VLF risers, fallers and hooks at and near the plasmapause in Multiscale Processes in the Earth's magnetosphere: From Interball to Cluster, J.-A. Sauvaud and Z. Nemecek, Eds., NATO Science Book Series, Kluwer Academic Publishers, Dordrecht, p 307, 2004.

Sauvaud, J.-A., P., Louarn, G. Fruit, H. Stenuit, C. Vallat, J. Dandouras, H. Rème, **M. André**, A. Balogh, M. Dunlop, L. Kistler, E. Möbius, C. Mouikis, B. Klecker, G. K. Parks, J. Mcfadden, C. Carlsson, F. Marcucci, G. Pallocchia, R. Lundin, A. Korth, M. McCarthy, Case studies of the dynamics of ionospheric ions in the Earth's magnetotail, *J. Geophys. Res.*, 109, A1, A01212, 10.1029/2003JA009996, 2004.

Stasiewicz, K., **Y. Khotyaintsev**, M. Grzesiak, Dispersive Alfvén Waves Observed by Cluster at the Magnetopause, *Physica Scripta*, T107, 171-175, 2004.

Tjulin, A., M. André, Anders I. Eriksson, and M. Maksimovic
Observations of lower hybrid cavities in the inner magnetosphere by the Cluster and Viking satellites, *Ann. Geophys.*, 22, 2961-2972, 2004.

Tjulin, A., Anders I. Eriksson, and **M. André**,
Localization of wave fields in lower hybrid cavities,
Ann. Geophysicae, 22, 2951-2959, 2004.

Vaivads, A., M. André, S. Buchert, J.-E. Wahlund, A. Fazakerley, N. Cornilleau-Wehrlein, Cluster observations of lower hybrid turbulence within thin layers at the magnetopause, *Geophys. Res. Lett.*, 31, L03804, doi:10.1029/2003GL018142, 2004.

Vaivads, A., Y. Khotyaintsev, M. André, A. Retino, S. C. Buchert, B. N. Rogers, P. Decreau, G. Paschmann, T. Phan, Structure of the magnetic reconnection diffusion region from four-spacecraft observations, *Phys. Rev. Lett.*, 93, doi:10.1103/PhysRevLett.93.105001, 2004.

Walker, S. N., H. StC. K. Alleyne, M. A. Balikhin, **M. André** and T. S. Horbury, Electric field scales at quasi-perpendicular shocks, *Ann. Geophys.*, 22, 2291-2300, 2004.

Walker, S. N., F. Sahraoui, M. A. Balikhin, G. Belmont, J.L. Pincon, L. Rezeau, H. Alleyne, N. Cornilleau-Wehrlein, **M. André**, A comparison of wave mode identification techniques, *Ann. Geophys.*, 22, 3021-3022, 2004.

Non-refereed

Engwall, E., A. I. Eriksson, A. Pedersen, J. Forest, G. Paschmann, J. Quinn, R. Torbert, and K. Torkar, Wake effects on positively charged spacecraft in tenuous plasmas: Cluster observations and modelling. *Proceedings of the 8th Space- craft Charging Technology Conference, NASA*, 2004

Vaivads, A., Magnetic Reconnection in Space, *The Starry Sky magazine*, Spring issue 3-8, 2004. (popular science, in Latvian)