

Polar/VIS Publications

L. A. Frank *et al.*
Department of Physics and Astronomy
The University of Iowa
Iowa City, IA

1995

1. Frank, L. A., J. B. Sigwarth, J. D. Craven, J. P. Cravens, J. S. Dolan, M. R. Dvorsky, P. K. Hardebeck, J. D. Harvey and D. Muller, The Visible Imaging System (VIS) for the Polar Spacecraft, Space Sci. Rev., 71, 297-328, 1995.

1997

2. Pulkkinen, T. I., D. N. Baker, N. E. Turner, H. J. Singer, L. A. Frank, J. B. Sigwarth, J. Scudder, R. Anderson, S. Kokubun, R. Nakamura, T. Mukai, J. B. Blake, C. T. Russell, H. Kawano, F. Mozer and J. A. Slavin, Solar Wind-Magnetosphere Coupling During an Isolated Substorm Event: A Multispacecraft ISTP Study, Geophys. Res. Lett., 24, 983-986, 1997.
3. Frank, L. A. and J. B. Sigwarth, Transient Decreases of Earth's Far-Ultraviolet Dayglow, Geophys. Res. Lett., 24, 2423-2426, 1997.
4. Frank, L. A. and J. B. Sigwarth, Simultaneous Observations of Transient Decreases of Earth's Far-Ultraviolet Dayglow With Two Cameras, Geophys. Res. Lett., 24, 2427-2430, 1997.
5. Frank, L. A. and J. B. Sigwarth, Detection of Atomic Oxygen Trails of Small Comets in the Vicinity of Earth, Geophys. Res. Lett., 24, 2431-2434, 1997.
6. Frank, L. A. and J. B. Sigwarth, Trails of OH Emissions From Small Comets Near Earth, Geophys. Res. Lett., 24, 2435-2438, 1997.
7. Frank, L. A. and J. B. Sigwarth, On the Influx of Small Comets into Earth's Atmosphere, Proceedings of the 1997 International Symposium on Instruments, Methods, and Missions for the Investigation of Extraterrestrial Microorganisms, San Diego, California, SPIE Vol. 3111, pp. 238-248, 1997.

1998

8. Pulkkinen, T. I., D. N. Baker, L. A. Frank, J. B. Sigwarth, H. J. Opgenoorth, R. Greenwald, E. Friis-Christensen, T. Mukai, R. Nakamura and H. Singer, Two Substorm Intensifications Compared: Onset, Expansion, and Global Consequences, J. Geophys. Res., 103, 15-27, 1998.
9. Chang, S.-W., J. D. Scudder, J. B. Sigwarth, L. A. Frank, N. C. Maynard, W. J. Burke, W. K. Peterson, E. G. Shelley, R. Friedel, J. B. Blake, R. A. Greenwald, R. P. Lepping, G. J. Sofko, J.-P. Villain and M. Lester, A Comparison of a Model for the Theta Aurora with Observations from Polar, Wind and SuperDARN, J. Geophys. Res., 103, 17,367-17,390, 1998.
10. Frank, L. A., J. B. Sigwarth and W. R. Paterson, High-Resolution Global Images of Earth's Auroras During Substorms, in Substorms-4, International Conference on Substorms-4, Lake Hamana, Japan, March 9-13, 1998, eds. S. Kokubun and Y. Kamide, pp. 3-8, Terra Scientific Publishing Company, Tokyo, Japan, 1998.
11. Tagirov, V. R., V. A. Arinin, C. I. Meng, D. G. Sibeck, A. T. Y. Lui, K. Liou, A. G. Ivanov, L. A. Frank, D. Morgan and G. Parks, Comparison of Two Substorm Onsets on the Basis of Coordinated Ground-Satellite Observations, in Substorms-4, International Conference on Substorms-4, Lake Hamana, Japan, March 9-13, 1998, eds. S. Kokubun and Y. Kamide, pp. 339-342, Terra Scientific Publishing Company, Tokyo, Japan, 1998.
12. Anderson, R. R., D. A. Gurnett, L. A. Frank, J. B. Sigwarth, H. Matsumoto, K. Hashimoto, H. Kojima, Y. Kasaba, M. L. Kaiser, G. Rostoker, J.-L. Bougeret, J. L. Steinberg, I. Nagano, T. Murata, H. J. Singer, T. G. Onsager and M. F. Thomsen, Geotail, Polar, Wind, Canopus, and ISTP Associated Geosynchronous Satellite Observations of Plasma Wave Emissions and Related Magnetospheric Phenomena During Substorms, in Substorms-4, International Conference on Substorms-4, Lake Hamana, Japan, March 9-13, 1998, eds. S. Kokubun and Y. Kamide, pp. 567-572, Terra Scientific Publishing Company, Tokyo, Japan, 1998.
13. Sandahl, I., H. E. J. Koskinen, A. M. Mälkki, T. I. Pulkkinen, E. Yu. Budnik, A. O. Fedorov, L. A. Frank and J. B. Sigwarth, Dispersive Magnetosheath-Like Ion Injections in the Evening Sector on January 11, 1997, Geophys. Res. Lett., 25, 2569-2572, 1998.

1999

14. Frank, L. A. and J. B. Sigwarth, A Search for Coastline Effects on the Auroras, J. Atmos. Solar-Terr. Phys., 61, 879-901, 1999.

15. Pickett, J. S., D. A. Gurnett, J. D. Menietti, M. J. LeDocq, J. D. Scudder, L. A. Frank, J. B. Sigwarth, K. L. Ackerson, D. D. Morgan, J. R. Franz, P. M. Kintner, B. T. Tsurutani, C. M. Ho, J. Chen, T. A. Fritz, C. T. Russell, W. K. Peterson, Y. Kasahara, I. Kimura, S. Watanabe, G. G. Arkos, G. Rostoker, S. Kokubun, H. Fukunishi, R. F. Pfaff, F. S. Mozer, S.-Y. Hsieh, T. Mukai and M. O. Chandler, Plasma Waves Observed During Cusp Energetic Particle Events and Their Correlation With Polar and Akebono Satellite and Ground Data, Adv. Space Res., 24, 23-33, 1999.
16. Frank, L. A. and J. B. Sigwarth, Atmospheric Holes: Instrumental and Geophysical Effects, J. Geophys. Res., 104, 115-141, 1999.
17. Pulkkinen, T. I., D. N. Baker, L. L. Cogger, L. A. Frank, J. B. Sigwarth, S. Kokubun, T. Mukai, H. J. Singer, K. Ogilvie, J. A. Slavin and L. Zelenyi, Spatial Extent and Dynamics of a Thin Current Sheet During the Substorm Growth Phase on December 10, 1996, J. Geophys. Res., 104, 28,475-28,490, 1999.
18. Frank, L. A. and J. B. Sigwarth, Comment on 'A Search for Small Comets With the Naval Space Radar,' by S. Knowles et al., J. Geophys. Res., 104, 22,605-22,607, 1999.
19. Nakamura, R., G. Haerendel, W. Baumjohann, A. Vaivads, H. Kucharek, B. Klecker, E. Georgescu, J. Birn, L. M. Kistler, T. Mukai, S. Kokubun, P. Eglitis, L. A. Frank and J. B. Sigwarth, Substorm Observations in the Early Morning Sector With Equator-S and Geotail, Ann. Geophys., 17, 1602-1610, 1999.

2000

20. Henderson, M. G., G. D. Reeves, A. M. Jorgensen, H. E. Spence, L. A. Frank, J. B. Sigwarth, J. F. Fennell, J. L. Roeder, J. B. Blake, K. Yumoto and S. Bourdarie, Polar CEPPAD/IPS Energetic Neutral Atom (ENA) Images of a Substorm Injection, Adv. Space Res., 25, 2407-2416, 2000.
21. Frank, L. A. and J. B. Sigwarth, Findings Concerning the Positions of Substorm Onsets With Auroral Images From the Polar Spacecraft, J. Geophys. Res., 105, 12,747-12,761, 2000. (correction due to publisher's error J. Geophys. Res., 105, 18,919-18,920, 2000.)
22. Sigwarth, J. B. and L. A. Frank, Comment on 'Atmospheric Holes are Not Small Comets,' by A. W. Harris, J. Geophys. Res., 105, 18,581-18,584, 2000.
23. Frank, L. A., W. R. Paterson, J. B. Sigwarth and S. Kokubun, Observations of Magnetic Field Dipolarization During Auroral Substorm Onset, J. Geophys. Res., 105, 15,897-15,912, 2000.

24. Cummer, S. A., R. R. Vondrak, N. Østgaard, J. Stadsnes, J. Bjordal, D. L. Chenette, M. J. Brittnacher, G. K. Parks, J. B. Sigwarth and L. A. Frank, Global Multispectral Auroral Imaging of an Isolated Substorm, Geophys. Res. Lett., 27, 637-640, 2000.
25. Lui, A. T. Y., K. Liou, P. T. Newell, C. -I. Meng, S. Ohtani, R. W. McEntire, N. J. Fox, R. P. Lepping, W. R. Paterson, J. B. Sigwarth, L. A. Frank, S. Kokubun, G. K. Parks, T. Moretto, and K. Yumoto, Conjunction of Tail Satellites for Substorm Study: ISTP Event of 1997 January 2, Geophys. Res. Lett., 27, 1831-1834, 2000.
26. Koskinen, H. E. J., A. M. Malkki, T. I. Pulkkinen, I. Sandahl, E. Y. Budnik, A. O. Fedorov, R. A. Greenwald, K. B. Baker, L. A. Frank, J. B. Sigwarth and W. K. Peterson, Observations of Plasma Entry into the Magnetosphere at Late Magnetic Local Times, Coordinated Measurements of Magnetospheric Processes, Adv. Space Res., 25(7/8), 1617-1622, 2000.
27. Jorgensen, A. M., L. Kepko, M. G. Henderson, H. E. Spence, G. D. Reeves, J. B. Sigwarth and L. A. Frank, Association of Energetic Neutral Atom Bursts and Magnetospheric Substorms, J. Geophys. Res., 105, 18,753-18,763, 2000.

2001

28. Raeder, J., R. L. McPherron, L. A. Frank, S. Kokubun, G. Lu, T. Mukai, W. R. Paterson, J. B. Sigwarth, H. Singer, and J. A. Slavin, Global Simulation of the Geospace Environment Modeling Substorm Challenge Event, J. Geophys. Res., 106, 381-395, 2001.
29. Lyons, L. R., R. L. McPherron, E. Zesta, G. D. Reeves, J. B. Sigwarth and L. A. Frank, Timing of Substorm Signatures During the November 24, 1996, Geospace Environment Modeling Event, J. Geophys. Res., 106, 349-359, 2001.
30. Frank, L. A. and J. B. Sigwarth, Detection of Small Comets With a Ground-Based Telescope, J. Geophys. Res., 106, 3665-3683, 2001.
31. Frank, L. A., J. B. Sigwarth, W. R. Paterson and S. Kokubun, Two Encounters of the Substorm Onset Region With the Geotail Spacecraft, J. Geophys. Res., 106, 5811-5831, 2001.
32. Ober, D. M., N. C. Maynard, W. J. Burke, W. K. Peterson, J. B. Sigwarth, L. A. Frank, J. D. Scudder, W. J. Hughes and C. T. Russell, Electrodynamics of the Poleward Auroral Border Observed by Polar During a Substorm on April 22, 1998, J. Geophys. Res., 106, 5927-5943, 2001.

33. Conde, M., J. D. Craven, T. Immel, E. Hoch, H. Stenbaek-Nielsen, T. Hallinan, R. W. Smith, J. Olson, W. Sun, L. A. Frank and J. Sigwarth, Assimilated Observations of Thermospheric Winds, the Aurora, and Ionospheric Currents Over Alaska, *J. Geophys. Res.*, 106, 10,493-10,508, 2001.
34. McWilliams, K. A., T. K. Yeoman, J. B. Sigwarth, L. A. Frank and M. Brittnacher, The Dayside Ultraviolet Aurora and Convection Responses to a Southward Turning of the Interplanetary Magnetic Field, *Ann. Geophys.*, 19, 707-721, 2001.
35. Frank, L. A. and J. B. Sigwarth, Comment on 'An Optical Search for Small Comets,' by R. L. Mutel and J. D. Fix, *J. Geophys. Res.*, 106, 24,857-24,862, 2001.
36. Frank, L. A., W. R. Paterson, J. B. Sigwarth and T. Mukai, Observations of Plasma Sheet Dynamics Earthward of the Onset Region With the Geotail Spacecraft, *J. Geophys. Res.*, 106, 18,823-18,841, 2001.
37. McWilliams, K. A., S. E. Milan, T. K. Yeoman, J. B. Sigwarth, L. A. Frank and M. Brittnacher, Interplanetary Magnetic Field B_y Dependence of the Relative Position of the Dayside Ultraviolet Auroral Oval and the HF Radar Cusp, *J. Geophys. Res.*, 106, 29,027-29,036, 2001.
38. Henderson, M. G., L. Kepko, H. E. Spence, M. Connors, J. B. Sigwarth, L. A. Frank, H. J. Singer and K. Yumoto, The Evolution of North-South Aligned Auroral Forms into Auroral Torch Structures: The Generation of Omega Bands and Ps6 Pulsations Via Flow Bursts, submitted to *Geophys. Res. Lett.*, 2001.

2002

39. Ohtani, S., R. Yamaguchi, H. Kawano, F. Creutzberg, J. B. Sigwarth, L. A. Frank and T. Mukai, Does the Braking of the Fast Plasma Flow Trigger a Substorm?: A Study of the August 14, 1996, Event, *Geophys. Res. Lett.*, 29(15), 1721, DOI 10.1029/2001GL013785, 2002.
40. Frank, L. A., W. R. Paterson and J. B. Sigwarth, Observations of Plasma Injection Into the Ring Current During Substorm Expansive Phase, *J. Geophys. Res.*, 107(A11), 1343, DOI 10.1029/2001JA000169, 2002.
41. Lyons, L. R., E. Zesta, Y. Xu, E. R. Sánchez, J. C. Samson, G. D. Reeves, J. M. Ruohoniemi and J. B. Sigwarth, Auroral Poleward Boundary Intensifications and Tail Bursty Flows: A Manifestation of a Large-Scale ULF Oscillation, *J. Geophys. Res.*, 107(A11), 1352, DOI 10.1029/2001JA000242, 2002.

42. Henderson, M. G., L. Kepko, H. E. Spence, M. Connors, J. B. Sigwarth, L. A. Frank, H. J. Singer and K. Yumoto, The Evolution of North-South Aligned Auroral Forms into Auroral Torch Structures: The Generation of Omega Bands and Ps6 Pulsations via Flow Bursts, in Sixth International Conference on Substorms, University of Washington, Seattle, March 25-29, 2002, ed. R. M. Winglee, pp. 169-174, University of Washington press, 2002.
43. El-Alaoui, M., M. Ashour-Abdalla, R. L. Richard, L. A. Frank, W. R. Paterson and J. B. Sigwarth, Distinct Magnetospheric Responses to Southward IMF in Two Substorms, in Sixth International Conference on Substorms, University of Washington, Seattle, March 25-29, 2002, ed. R. M. Winglee, pp. 352-357, University of Washington press, 2002.
44. Ivchenko, N., P. Eglitis, M. Berthomier, L. Peticolas, A. Kullen, G. Marklund, L. Frank, J. Sigwarth, K. Kauristie and M. Brittnacher, Field Aligned Current Structures and Associated Pulsations During Substorm Recovery, submitted to J. Geophys. Res., 2002.

2003

45. Gjerloev J. W., R. A. Hoffman, E. Tanskanen, M. Friel, L. A. Frank, J. B. Sigwarth, Auroral electrojet configuration during substorm growth phase, Geophys. Res. Lett., 30 (18), 1927, doi:10.1029/2003GL017851, 2003.
46. Maynard, N. C., W. J. Burke, J. Moen, D. M. Ober, J. D. Scudder, J. B. Sigwarth, G. L. Siscoe, B. U. Ö. Sonnerup, W. W. White, K. D. Siebert, D. R. Weimer, G. M. Erickson, L. A. Frank, M. Lester, W. K. Peterson, C. T. Russell, G. R. Wilson and A. Egeland, Responses of the Open-Closed Field Line Boundary in the Evening Sector to IMF Changes: A Source Mechanism for Sun-aligned Arcs, J. Geophys. Res., 108(A1), 1006, DOI 10.1029/2001JA000174, 2003.
47. Frank, L. A. and J. B. Sigwarth, Simultaneous Images of the Northern and Southern Auroras From the Polar Spacecraft: An Auroral Substorm, J. Geophys. Res., 108(A4), 8015, DOI 10.1029/2002JA009356, 2003.
48. Frank, L. A. and J. B. Sigwarth, Reply to "Comment on 'Detection of Small Comets With a Ground-Based Telescope' by L. A. Frank and J. B. Sigwarth," by R. L. Mutel and J. D. Fix, J. Geophys. Res., 108(A5), 1172, DOI 10.1029/2002JA009469, 2003.
49. Pulkkinen, T. I., E. I. Tanskanen, M. Wiltberger, J. A. Slavin, T. Nagai, G. D. Reeves, L. A. Frank and J. B. Sigwarth, Magnetotail Flows Can Consume as Much Solar Wind Energy as a Substorm, J. Geophys. Res., 108(A8), 1326, DOI 10.1029/2001JA009132, 2003.

50. Østgaard, N., S. B. Mende, H. U. Frey, L. A. Frank and J. B. Sigwarth, Observations of Non-Conjugate Theta Aurora, Geophys. Res. Lett., 30(21), 2125, DOI 10.1029/2003GL017914, 2003.
51. Grocott, A., S. W. H. Cowley and J. B. Sigwarth, Ionospheric Flow During Extended Intervals of Northward But B_y -dominated IMF, Ann. Geophys., 21, 509-538, 2003.

2004

52. Østgaard, N., S. B. Mende, H. U. Frey, T. J. Immel, L. A. Frank, J. B. Sigwarth and T. J. Stubbs, Interplanetary Magnetic Field Control of the Location of Substorm Onset and Auroral Features in the Conjugate Hemispheres, J. Geophys. Res., 109, A07204, DOI 10.1029/2003JA010370, 2004.

2005

53. Ahn, B.-H., G. X. Chen, W. Sun, J. W. Gjerloev, Y. Kamide, J. B. Sigwarth and L. A. Frank, Equatorward Expansion of the Westward Electrojet During Magnetically Disturbed Periods, J. Geophys. Res., 110, A01305, DOI 10.1029/2004JA010553, 2005.
54. Østgaard, N., N. A. Tsyganenko, S. B. Mende, H. U. Frey, T. J. Immel, M. Fillingim, L. A. Frank and J. B. Sigwarth, Observations and Model Predictions of Substorm Auroral Asymmetries in the Conjugate Hemispheres, Geophys. Res. Lett., 32, L05111, DOI 10.1029/2004GL022166, 2005.
55. Østgaard N., S. B. Mende, H. U. Frey, J. B. Sigwarth, Simultaneous imaging of the reconnection spot in the opposite hemispheres during northward IMF, Geophys. Res. Lett., 32, L21104, doi:10.1029/2005GL024491, 2005.
56. Rastätter L., M. Hesse, M. Kuznetsova, J. B. Sigwarth, J. Raeder, T. I. Gombosi, Polar cap size during 14–16 July 2000 (Bastille Day) solar coronal mass ejection event: MHD modeling and satellite imager observations, J. Geophys. Res., 110, A07212, doi:10.1029/2004JA010672, 2005.
57. Stubbs, T. J., R. R. Vondrak, N. Østgaard, J. B. Sigwarth and L. A. Frank, Simultaneous Observations of the Auroral Ovals in Both Hemispheres Under Varying Conditions, Geophys. Res. Lett., 32, L03103, DOI 10.1029/2004GL021199, 2005.

2006

58. Henderson, M. G., R. Skoug, E. Donovan, M. F. Thomsen, G. D. Reeves, M. H. Denton, H. J. Singer, R. L. McPherron, S. B. Mende, T. J. Immel, J. B. Sigwarth, and L. A. Frank, Substorms during the 10–11 August 2000 sawtooth event, *J. Geophys. Res.*, 111, A06206, doi:10.1029/2005JA011366, 2006.
59. Østgaard, N., S. B. Mende, H. U. Frey, J. B. Sigwarth, A. Aasnes, J. M. Weygand, Auroral conjugacy studies based on global imaging, *J. Atmos. Terr. Phys.*, in press, 2006.
60. Østgaard, N., S. B. Mende, H. U. Frey, J. B. Sigwarth, A. Aasnes, and J. M. Weygand, Conjugate imaging of substorms, *Int. Conf. Substorms-8*, in press, 2006.