

Publications by Carl-Gunne Fälthammar

1. Fälthammar, C.-G., Experiments on Magnetohydrodynamic Co-rotation in Mercury, Arkiv för Fysik 19, 109, 1961.
2. Fälthammar, C.-G., The Stationary State of a High-Temperature Gas-Insulated Plasma Column, Physics of Fluids 4, 1145, 1961.
3. Fälthammar, C.-G., with H. Alfvén et al., Gas-Insulation of Hot Plasma: Theory and Experiment, Nuclear Fusion, Supplement, Part 1, p.33-38, 1962.
4. Fälthammar, C.-G., Electromagnetic Properties of an Expanding Stream of Magnetized Plasma, J. Geophys. Res. 67, 1791, 1962.
5. Alfvén, H., Fälthammar, C.-G., *Cosmical Electrodynamics, Fundamental Principles*, International Series of Monographs on Physics, Clarendon Press 1963.
6. Fälthammar, C.-G., Acceleration of Cosmic-Ray Particles by Magnetic Pumping, Proc. International School of Physics "Enrico Fermi", Course XIX, Ed. B. Peters, Academic Press, p. 99, 1963.
7. Alfvén, H., Danielsson, L., Fälthammar, C.-G., Lindberg, L., On the Penetration of Interplanetary Plasma into the Magnetosphere, Proc. Plasma Space Science Symposium, Ed. C.C. Chang and S.S. Huang, Reidel Publ. Co., Dordrecht, p. 145, 1965.
8. Fälthammar, C.-G., Solvinden, Kosmos 43, 26, 1965.
9. Fälthammar, C.-G., Some Aspects of Particles and Fields in the Magnetosphere, Proc. Symposium on High Latitude Particles and the Ionosphere, Ed. B. Maehlum, Logos Press, p. 71, 1965.
10. Fälthammar, C.-G., Effects of Time-Dependent Electric Fields on Geomagnetically Trapped Radiation, J. Geophys. Res. 70, 2503, 1965.
11. Fälthammar, C.-G., On the Radial Motion of Geomagnetically Trapped Particles due to Perturbations that Change the Third Adiabatic Invariant, Space Research VI, Ed. R.L. Smith-Rose, Spartan Books Inc., p. 723, 1966.
12. Fälthammar, C.-G., On the Transport of Trapped Particles in the Outer Magnetosphere, J. Geophys. Res. 71, 1487-1491, 1966.
13. Fälthammar, C.-G., On the Motion of Charged Particles in the Magnetosphere, Thesis, The Royal Institute of Technology, 1966.
14. Fälthammar, C.-G., Coefficients of Diffusion in the Outer Radiation Belt, Proc. Advanced Study Institute, Radiation Trapped in the Earth's Magnetic Field, Ed. B.M. McCormac, Reidel Publ. Co., Dordrecht, p. 398-402, 1966.
15. Birmingham, T., and Northrop, T., Fälthammar, C.-G., Charged Particle Diffusion by Violation of the third Adiabatic Invariant, Physics of Fluids 10, 2389-2398, 1967.

16. Rostoker, G., Fälthammar, C.-G., Relationship between Changes in the Interplanetary Magnetic Field and Variations in the Magnetic Field at the Earth's Surface, *J. Geophys. Res.* 72, 5853-5863, 1967.
17. Fälthammar, C.-G., Radial Diffusion by Violation of the Third Adiabatic Invariant, *Earth's Particles and Fields*, Ed. B.M. McCormac, Van Nostrand Reinhold Publ. Co., New York, 157, 1968.
18. Fälthammar, C.-G., Transport and Acceleration of Radiation-Belt Particles, *Comptes rendues des Journées sur le calcul des doses de radiations dans l'espace*, Ed. C. Elbaz, J.-F. Faugère and A. Lobeau, CNES-CERTS, Toulouse, p. 5, 1968.
Also available in French as internal report 68-04 from Electron and Plasma Physics, Royal Institute of technology, Stockholm.
19. Fälthammar, C.-G., Elektricitet i rymden, *Forskning och Framsteg*, nr. 6, 1968, pp. 20-23.
20. Electric Fields in Space – a Survey, pp. 225-243 in *Proc. Fourth International Symposium on Universal Aspects of Atmospheric Electricity*, Tokyo, Japan, 12-18 May, 1968.
21. Block, L., Fälthammar, C.-G., Effects of Field-Aligned Currents on the Structure of the Ionosphere, *J. Geophys. Res.* 73, 4807-4812, 1968.
22. Block, L., Fälthammar, C.-G., Field-Aligned Currents and Auroral Precipitation, *Atmospheric Emissions*, p. 285, Ed. B.M. McCormac, Van Nostrand Reinhold Co., New York, 1969.
23. Fälthammar, C.-G., Fundamental Electromagnetic Processes in the Outer Magnetosphere, *Atmospheric Emissions*, Ed. B.M. McCormac, Van Nostrand Reinhold Co., New York, p. 37, 1969.
24. Fälthammar, C.-G., Walt, M., Radial Motion Resulting from Pitch-Angle Scattering of Trapped Electrons in the Distorted Geomagnetic Field, *J. Geophys. Res.* 74, 4184-4186, 1969.
25. Block, L., Shawhan, S. D., Fälthammar, C.-G., Conjugate Photoelectron Impact Ionisation, *Journal of Atmospheric and Terrestrial Physics* 32, 1885-1900, 1970.
26. Fälthammar, C.-G., Introductory Survey of Radiation-Belt Diffusion, Particles and Fields in the Magnetosphere, Ed. B.M. McCormac, Rediel Publ. Co. Dordrecht, p. 387, 1970.
27. Fälthammar, C.-G., Hannes Alfvén, nobelpristagare i fysik 1970, *Kosmos* 1971, pp. 7-10.
28. Fahleson, U., Fälthammar, C.-G., Pedersen, A., Knott, K., Brommundt, G., Schumann, G., Haerendel, G., Rieger, E., Simultaneous Electric Field Measurements in the Auroral Ionosphere Using Three Independent Techniques, *Radio Science* 6, 233-245, 1971.

29. Alfvén, H., Fälthammar, C.-G., A New Approach to the Theory of the Magnetosphere, *Cosmic Electrodynamics* 2, 78-88, 1971 .
30. Fälthammar, C.-G., Block, L., Problems Related to High-Latitude Electric Fields and Currents, *Wave Particle Interactions in the Magnetosphere*, ESRO SP-72, p. 147-156, 1971.
31. Fälthammar, C.-G., Plasma Phenomena in Astrophysics, Proc. Xth International Conference on Phenomena in Ionized Gases, Oxford, 13-18 Sept., Invited papers, Parsons and Co., Oxford, p. 1, 1971.
32. Fälthammar, C.-G., Diffusion and Acceleration in the Earth's Radiation Belts, *Solar-Terrestrial Physics*, 1970, Ed. E.R. Dyer, Reidel Publ. Co., Dordrecht, Part III, p. 270, 1972.
33. Fälthammar, C.-G., Magnetospheric Processes, *Earth's Magnetospheric Processes*, Ed. B.M. McCormac, Reidel Publ. Co., Dordrecht, p. 16, 1972.
34. Fahleson, U. and Pedersen, A., Fälthammar, C.-G., Determination of Ionospheric Density and Temperature using a Double Probe Electric Field Detector, *Space Research XII*, Ed. S.A. Bowhill, L.D. Jaffe and M.J. Rycroft, Akademie-Verlag, Berlin, p. 1369-1378, 1972.
35. Fälthammar, C.-G., Les Aurores Polaires, *La Recherche* 3, 537, 1972.
36. Fälthammar, C.-G., The Solar Wind, Chapter 7 of *Cosmical Geophysics*, Ed. A. Egeland, Ö. Holter and A. Omholt, Universitetsforlaget, Oslo, p. 93, 1973.
37. Fälthammar, C.-G., Motion of Charged Particles in the Magnetosphere, Chapter 9 of *Cosmical Geophysics*, Ed. A. Egeland, Ö. Holter and A. Omholt, Universitetsforlaget, Oslo, p. 121, 1973.
38. Fälthammar, C.-G., Laboratory Experiments of Magnetospheric Interest, *Space Sci. Rev.* 15, 803-825, 1974.
39. Fahleson, U., Fälthammar, C.-G., and Pedersen, A., Ionospheric Temperature and Density Measurements by Means of Spherical Double Probes, *Planetary and Space Science*, 22, 41-66, 1974.
40. Fahleson, U., Fälthammar, C.-G., and Pedersen, A., Electric Field and Plasma Measurements in the Auroral Ionosphere Prior to a Magnetic Substorm, *Space Research XV*, Ed. M.J. Rycroft, Akademie-Verlag, Berlin, pp. 471-475, 1975.
41. Ungstrup, E., Bahnsen, A., Olesen, J. K., Primdahl, F., Spangslev, F., Heikkila, W. J., Klumpar, D. M., Winningham, J. D., Fahleson, U., Fälthammar, C.-G., and Pedersen, A., Rocket-Borne Particle, Field and Plasma Observations in the Cleft Region, *Geophys. Res. Letters* 2, 345-348, 1975.
42. Block, L., Fälthammar, C.-G., Mechanisms that May Support Magnetic-Field Aligned Electric Fields in the Magnetosphere, *Ann. Geophys.* 32, 161, 1976.
43. Edwards, T., Bryant, D. A., Smith, M. J., Fahleson, U., Fälthammar, C.-G., Pederson, A., Electric Fields and Energetic Particle Precipitation in an Auroral Arc, p. 85 in *magnetospheric Particles and Fields*, Ed. B.M. McCormac, Reidel Publ. Co., p. 285-289, 1976.

44. Olesen, J. K., Primdahl, F., Spangselev, F., Ungstrup, E., Bahnsen, A., Fahleson, U., Fälthammar, C.-G., Pedersen, A., Rocket-Borne Wave, Field, and Plasma Observations in an Unstable Polar Cap E-Region, *Geophys. Res. Letters* 3, 711-714, 1976.
45. Holzworth, R. H., Berthelier, J. J., Cullers, D. K., Fahleson, U.V., Fälthammar, C.-G., Hudson, M. K., Jalonen, L., Kelley, M. C., Kellogg, P. J., Tanskanen, P., Tamerin, M., Mozer, F.S., The Large Scale Ionospheric Electric Field: Its Variation with Magnetic Activity and Relation to Terrestrial Kilometric Radiation, *J. Geophys. Res.* 82, 2735-2742, 1977.
46. Fälthammar, C.-G., Problems Related to Macroscopic Electric Field in the Magnetosphere, *Rev. Geophys. Space Phys.* 15, 457, 1977. Reprinted, with due permission, in *Astrophys. Space Sci.* 55, 179, 1978.
47. Shawhan, S., Fälthammar, C.-G., and Block, L., Stanley, D., On the Nature of Large Auroral Zone Electric Fields at One R_E Altitude, *J. Geophys. Res.* 83, 1049-1054, 1977.
48. Fälthammar, C.-G., Generation Mechanisms for Magnetic-Field-Aligned Electric Fields in the Magnetosphere (Invited paper GA 537 at the IAGA/IAMAP Joint Assembly, Seattle, 1977) *J. Geomag. Geoelectr.* 30, 419-434, 1978.
49. Mozer, F. S., Torbert, R. B., Fahleson, U.V., Fälthammar, C.-G., Gonfalone, A., Pedersen, A., Measurement of Quasi-Static and Low-Frequency Electric Fields with Spherical Double Probes on the ISEE-1 Spacecraft, *ISEE Transactions on Geoscience Electronics*, G-E 16, 258-261, 1978.
50. Fälthammar, C.-G., Akasofu, S. I., and Alfvén, H., The Significance of Magnetospheric Research for Progress in Astrophysics, *Nature* 275, 185-188, 1978.
51. Mozer, F. S., Torbert, R. B., Fahleson, U.V., Fälthammar, C.-G., Gonfalone, A., Pedersen, A., Electric Field Measurements in the Solar Wind, Bowshock, Magnetosheath, Magnetopause and Magnetosphere, Lecture at the 13th ESLAB Symposium "Advances in Magnetospheric Physics with GEOS and ISEE", *Space Sci. Rev.* 22, p.791-804, 1978.
52. Bahnsen, A., Ungstrup, E., Fälthammar, C.-G., Fahleson, U., Olesen, J. K., Primdahl, F., Spangselev, F., Pedersen, A., Electrostatic Waves Observed in an Unstable Polar Cap Ionosphere, *J. Geophys. Res.* 83, 5191-5197, 1978.
53. Fälthammar, C.-G., Non-Resistive Electric Potential Drops in Cosmical Plasmas (Invited paper at "The Workshop on Particle Acceleration Mechanisms in Astrophysics", La Jolla, Calif., 1978) *American Institute of Physics Conference Proceedings* 56, 27-41, 1979.
54. Gonfalone, A., Pedersen, A., Fahleson, U. V., Fälthammar, C.-G., Mozer, F. S., Torbert, R. B., Spacecraft Potential Control on ISEE-A, Paper presented at the Spacecraft Charging Technology Conference, Colorado Springs, NASA Conf. Publ., 256-267 AFGL-TR-79-0082, 1978.
55. Heikkila, W. J., Pellinen, R. J., Fälthammar, C.-G., Block, L. P., Potential and Inductive Electric Fields in the Magnetosphere during Auroras, *Planet. Space Sci.* 22, 1383-1389, 1979.
56. Fahleson, U., Fälthammar, C.-G., Lindqvist, P. A., Mozer, F. A., Torbert, R. B., Gonfalone, A., Pedersen, A., Quasistatic Electric Fields Observed during a Number of

- Magnetopause Crossings by ISEE-1, Proceedings Magnetospheric Boundary Layers Conference, Alpbach, Austria, 1979, European Space Agency Special publication SP-148, 51-65, 1979.
57. Fälthammar, C.-G., Electric Fields in the Outer Magnetosphere - Recent Progress and Outstanding Problems, Proceedings of the International Workshop on Selected Topics of Magnetospheric Physics Tokyo, p. 350, 1979.
 58. Mozer, F. S., Torbert, R. B., Fahleson, U.V., Fälthammar, C.-G., Gonfalone, A., Pedersen, A., Russell, C. T., .Direct Observation of a Tangential Electric Field Component at the Magnetopause, Geophys. Res. Letters 6, 305-308, 1979.
 59. Shepherd, G. G., Fälthammar, C.-G., Implication of Extreme Thinness of Pulsating Auroral Structures, J. Geophys. Res. 85, 217-218, 1980.
 60. Shepherd, G. G., Boström, R., Derblom, H., Fälthammar, C.-G., Gendrin, R., Kaila, K., Korth, A., Pedersen, A., Pellinen, R., Wrenn, G., Plasma and Field Signatures of Propagating Impulsive Precipitation Observed at the Foot of the GEOS-2 Fieldline, J. Geophys. Res. 85, 4587-4601, 1981.
 61. Fälthammar, C.-G., Electric Double Layers - A Review of Recent Laboratory Results (Invited paper) Proceedings of the Conference Origins of Plasmas and Electric Fields in the Magnetosphere, Yosemite, Jan. 25-29, 1982, Ed. J.C. Foster and F.T. Berkey, Utah State University, Logan, 28:1-4, 1982.
 62. Pedersen, A. and Fälthammar, C.-G., Mozer, F.S., Magnetospheric Electric Fields and their Variations with Storm Activity GEOS and ISEE Observations, Proceedings of the Conference Origins of Plasmas and Electric Fields in the Magnetosphere, Yosemite, Jan. 25-29, 1982, Ed. J.C. Foster and F.T. Berkey, Utah State University, Logan, 37:1-4, 1982.
 63. Silevitch, M. B. and Fälthammar, C.-G., Block, L. P., Transient Double Layers as a Source for the 10 Hz Flickering Aurora, Proceedings of the Conference Origins of Plasmas and Electric Fields in the Magnetosphere, Yosemite, Jan. 25-29, 1982, Ed. J.C. Foster and F.T. Berkey, Utah State University, Logan, 30:1-4, 1982.
 64. Fälthammar, C.-G., Electric Fields in the Magnetosphere, Invited COSPAR Background Article for the 2:nd United Nations Conference on the Peaceful Uses of Outer Space, Adv. Space Res. 2, 19-23, 1982.
 65. Fälthammar, C.-G., Det Kosmiska Plasmat, Kosmos 51, 123-141, 1983.
 66. Fälthammar, C.-G., Magnetic-Field Aligned Electric Fields, ESA Journal 7, 385-403, 1983.
 67. Pedersen, A., Cattell, C. A., Fälthammar, C.-G., Formisano, V., Lindqvist, P. A., Mozer, F., Torbert, R., Quasistatic Electric Field Measurements with Spherical Double Probes on the GEOS and ISEE Satellites, Space Sci. Rev. 37, 269-312, 1984.
 68. Fälthammar, C.-G., MHD Dynamo Action in Space Plasmas, Invited Review for the Fourth Beer-Sheva Seminar on MHD Flows and Turbulence, Beer-Sheva, Febr. 27 - March 2, The Royal Institute of Technology report TRITA-EPP-84-06, 1984.
 69. Fälthammar, C.-G., Pedersen, A., Lindqvist, P. A., Cattell, C. A., Mozer, F., Formisano, V., Satellite-Borne Electric Field Measurements with Spherical Double Probes, Proceedings of

the Symposium on the Achievements of the IMS, Graz, Austria June 26-28, 1984, European Space Agency Special publication SP-217, 125-129, 1984.

70. Pedersen, A., Lindqvist, P. A., Fälthammar, C.-G., Manka, R. H., Mozer, F., Cattell, C.A., Knott, K., Electric Fields in the Plasma Sheet and Plasma Sheet Boundary Layer, *J. Geophys. Res.*, 90, 1231-1242, 1985.
71. Fälthammar, C.-G., Magnetosphere - Ionosphere Coupling, Proceedings of the ESA Workshop on Future Missions in Solar, Heliospheric and Space Physics, Garmisch-Partenkirchen 30 April - 3 May, 1985, European Space Agency Special Publication SP 235, 107-133, 1985.
72. Fälthammar, C.-G., Plasma i rymden och i Laboratoriet – Aktuell forskning vid Institutionen för Plasmafysik, SMR: Svenska Mekanikers Riksförening Tidskrift, 1986:2, pp. 37-44, 1986.
73. Fälthammar, C.-G., Magnetosphere-Ionosphere Interactions - Near Earth Manifestations of the Plasma Universe, (Invited review article) *IEEE Transactions PS14*, 616-628, 1986. Reprinted, with due permission, in *Astrophys. Space Sci.* 144, 105-133, 1988.
74. Fälthammar, C.-G., The Earth's Magnetosphere As a Sample of the Plasma Universe (Invited keynote Lecture at NASA Office of Advanced Space technology Workshop "Space Technology Plasma Issues in 2001", Jet Propulsion Laboratory, Pasadena, 24-26 Sept. 1986) pp. 39-50 in JPL Publication 86-49, Eds. H. Garrett, J. Feynman and S. Gabriel, Jet Propulsion Laboratory, Pasadena, 1986.
75. Fälthammar, C.-G., Block, L. P., Lindqvist, P. A., Marklund, G., Pedersen, A., Mozer, F. S., Preliminary Results from the DC Electric Field Experiment on Viking (invited paper at the symposium "Auroral Dynamics" at the EGS Assembly, Kiel, 25-29. Aug., 1986, *Annales Geophysicae*, 5, 171-176, 1987.
76. Block, L. P., Fälthammar, C.-G., Lindqvist, P. A., Marklund, G., Pedersen, A., Mozer, F.S., Measurement of Quasi-Static and Low Frequency Electric Fields on the Viking Satellite, Report TRITA-EPP-87-02, The Royal Institute of Technology, Stockholm, 1987.
77. Block, L. P., Fälthammar, C.-G., Lindqvist, P. A., Marklund, G., Pedersen, A., Mozer, F. S., Potemra, T. A., Zanetti, L.T., Electric Field Measurements on Viking,: First Results, *Geophys. Res. Letters*, 4, 435-438, 1987.
78. Block, L. P., Fälthammar, C.-G., Lindqvist, P. A., Marklund, G., Parallel Electric Fields: Viking Observations and Interpretation (Extended Abstract) Proceedings of the International Symposium on Quantitative Modeling of Magnetosphere-Ionosphere Coupling Processes, Kyoto, March 9-13, Editors. Y. Kamide and R. A. Wolf, Vol. 2, pp. 169-173, 1987.
79. Fälthammar, C.-G., Arrhenius, G., Bibhas, R. De., Herlofson, N., Mendis, A., n at Eighty, *Astrophys. Space Sci.*, 144, 1-2,1988.
80. Fälthammar, C.-G., Magnetosphere-Ionosphere Interactions - Near Earth Manifestations of the Plasma Universe, *Astrophys. Space Sci.* 144, 105-133, 1988. (Invited review article, reprinted, with due permission, from *IEEE Transactions PS14*, 616-628, 1986.)
81. Fälthammar, C.-G., Laboratory and Near-Earth Space Plasma as a Key to the Plasma Universe, (Opening Invited review at the Space Plasma Session of IEEE International

- Conference on Plasma Science, Washington, DC 1-3 June 1987), *Laser and Particle Beams*, 6, part 3, 437-452, 1988.
82. Alfvén, H., Fälthammar, C.-G., *Astrophysics in a Nutshell – from the Telescope to the Sputnik*, Report TRITA-EPP-88-04, The Royal Institute of Technology, Stockholm, March 1988.
 83. Rothwell, P., Silevitch, M. B., Block, L. P., Fälthammar, C.-G., *A New Model for Substorm Onsets: The Pre-Breakup and Triggering Regimes*, *Geophys. Res. Letters*, 15, 1279-1282, 1988.
 84. Rothwell, P., Block, L. P., Silevitch, M. B., Fälthammar, C.-G., *Substorm Breakup on Closed Field Lines*, *Adv. Space Res.*, 8, No. 9-10, 347-350, 1988.
 85. Fälthammar, C.-G., *Astrophysical Significance of Observations and Experiments in the Earth's Magnetosphere* (Invited lecture at the Varenna-Abastumani Workshop on Plasma Astrophysics, Varenna 24 Aug. - 5 Sept., 1988) *ESA Special Report SP-285*, vol. 1, page 9-19, 1988.
 86. Gustafsson, G., Aggson, T., Boström, R., Block, L. P., Cattell, C., Decreau, P., Egeland, A., Fälthammar, C.-G., Grad, R., Gurnett, D., Harvey, C., Holback, B., Holmgren, G., Kellogg, P., Kintner, P., Klimov, S., Lebreton, J.-P., Lindqvist, P.-A., Manning, R., Marklund, G., Maynard, N., Mozer, F., Mursula, K., Pedersen, A., Pfaff, R., Roth, I., Raux, A., Schmidh, R., Singer, H., Smiddy, M., Stasiewicz, K., Tanskanen, P., Temerin, M., Thrane, E., Wygant, J., Woolliscroft, L. J. C., *The Spherical Probe Electric Field and Wave Experiment for the Cluster Mission*, *ESA Special Report, ESA SP-1103*, pp. 31-36, October 1988.
 87. Rothwell, P., Block, L. P., Silevitch, M. B., Fälthammar, C.-G., *A New Model for Auroral Breakup during Substorms*, *IEEE Transactions on Plasma Science*, 17, 150-157, 1989.
 88. Block, L. P., Fälthammar, C.-G., *Auroral Particle Acceleration by DC and Low Frequency Electric Fields*, *ESA Special Report, ESA SP-291*, pp. 93-95, 1989.
 89. Fälthammar, C.-G., *Electric Fields in the Magnetosphere - the Evidence from ISEE, GEOS and Viking*, *IEEE Transactions on Plasma Science*, 17, 174-185, 1989.
 90. Fälthammar, C.-G., *Electric Fields in the Magnetosphere - a Review* (Invited paper presented to the Upper Atmosphere Physics Working Group of the SCAR, Hobart, Tasmania 5 Sept. 1988) *Planet. Space Sci.* 37, 899-914, 1989.
 91. Fälthammar, C.-G., *Rymdfysik* (Text for an undergraduate course of Space Physics), Department of Plasma Physics, The Royal Institute of Technology, September 1989. (2nd Edition 1990, 3rd Edition 1991)
 92. Fälthammar, C.-G., *Electric Fields in the Magnetosphere* (Invited lecture for the 1989 International Conference on Plasma Physics, New Delhi, India, Nov. 22-28, cancelled because of illness) TRITA-EPP-89-06, The Royal Institute of Technology, Stockholm, 1989.
 93. Fälthammar, C.-G., *The Plasma Universe* (Invited lecture for the International Astronomical Union Symposium on Plasma Processes in the Sun, Bangalore, India, Dec. 1-5, 1989), pp. 9 - 20 in Basic Plasma Processes on the Sun, Ed. E.R. Priest and V. Krishan, IAU 1990 (extended version available as report TRITA-EPP-89-08, The Royal Institute of Technology, Stockholm, 1989).

94. Brenning, N., Bohm, M., Fälthammar, C.-G., Dynamic Trapping Physics of Electrons in Space Plasmas, Report TRITA-EPP-89-07, The Royal Institute of Technology, Stockholm, December 1989.
95. Alfvén, H., Fälthammar, C.-G., Can the Big Bang Survive in the Space Age?, Report TRITA-EPP-90-02, The Royal Institute of Technology, Stockholm, February 1990.
96. Bohm, M., Brenning, N., and Fälthammar, C.-G., Dynamic Trapping of Electrons in the Porcupine Ionospheric Ion Beam Experiment, Report TRITA-EPP-90-06, The Royal Institute of Technology, Stockholm, August 1990.
97. Marklund, G. T., Blomberg, L. G., Fälthammar, C.-G., Erlandson, R. E., Potemra, T. A., Signatures of the High-Altitude Polar Cusp and Dayside Auroral Regions as Seen by the Viking Electric Field Experiment, *J. Geophys. Res.*, 95, 5767 - 5780, 1990.
98. Fälthammar, C.-G., Electrodynamics of Cosmical Plasmas - Some Basic Aspects of Cosmological Importance (Invited lecture at the IEEE International Workshop on Plasma Cosmology, La Jolla, Calif., 20-22 February, 1989) *IEEE Transactions on Plasma Science*, 18, 11-17, 1990.
99. Brenning, N., Fälthammar, C.-G., Haerendel, G., Kelley, M., Marklund, G., Pfaff, R., Providakes, J., Stenbaek-Nielsen, H. C., Swensson, C., Torbert, R. B., Wescott, E. M., Critical Ionization Velocity Interaction in the CRIT I Rocket Experiment, *Adv. Space Res.*, 10, 63-66, 1990.
100. Brenning, N., Fälthammar, C.-G., Haerendel, G., Kelley, M., Marklund, G., Providakes, J., Stenbaek-Nielsen, H. C., Swensson, C., Torbert, R. B., Wescott, E. M., Electrodynamical Interaction Between the CRIT I Ionized Barium Streams and the Ambient Ionosphere, *Adv. Space Res.*, 10, 67-70, 1990.
101. Block, L., Fälthammar, C.-G., The Role of Magnetic-Field Aligned Electric Fields in Auroral Acceleration, *J. Geophys. Res.*, 95, 5877-5888, 1990.
102. Bohm, M. and Brenning, N., Fälthammar, C.-G., Dynamic Trapping: Neutralization of positive Space Charge in a Collisionless Magnetized Plasma, *Phys. Rev. Letters*, 65, 859-862, 1990.
103. Hultqvist, B., Fälthammar, C.-G., Editors, Magnetospheric Physics - Achievements and Prospects, Plenum Press 1990.
104. Brenning, N., Fälthammar, C.-G., Bohm, M., An Extension of the Boltzmann Relation to Collisionless Magnetized Plasma, Report TRITA-EPP-90-08, The Royal Institute of Technology, Stockholm, December 1990.
105. Fälthammar, C.-G., *Plasmafysik* (Text for an undergraduate course of Plasma Physics), Department of Plasma Physics, The Royal Institute of Technology, January 1991.
106. Rothwell, P., Silevitch, M. B., Block, L. P., Fälthammar, C.-G., The Substorm Onset and Magnetosphere-Ionosphere Coupling, pp. 367-378 in Physics of Space Plasmas, Ed. T. Chang, G. B. Crew and J. R. Jasperse, Scientific Publishers Inc. 1991.

107. Block, L., Fälthammar, C.-G., Characteristics of Magnetic-Field Aligned Electric Fields in the Auroral Acceleration Region, pp. 109-118 in Auroral Physics, Ed. C.-I. Meng, M. J. Rycroft and L. A. Frank, Cambridge University Press 1991.
108. Fälthammar, C.-G., Space Physics (Text for an undergraduate course of Space Physics), Department of Plasma Physics, The Royal Institute of Technology, June 1991.
109. Brenning, N., Fälthammar, C.-G., Haerendel, G., Kelly, M. C., Marklund, G., Pfaff, R., Providakes, J., Stenbaek-Nielsen, H. C., Swensson, C., Torbert, R.B., Wescott, E. M., Interpretation of the Electric Fields Measured in an Ionospheric Critical Ionization Velocity Experiment, *J. Geophys. Res.*, 96, 9719-9733, 1991.
110. Rothwell, P., Silevitch, M. B., Block, L. P., Fälthammar, C.-G., Prebreakup Arcs - a Comparison Between Theory and Experiment, *J. Geophys. Res.*, 96, 13967-13975, 1991.
111. Fälthammar, C.-G., Physics of the Aurora, (Invited Lecture at the Second Latin American Conference on Space Geophysics, Cuernavaca, Mexico, 8-11 July, 1991), *Geofísica Internacional*, 30, 197-211, 1991.
112. Fälthammar, C.-G., Exploring the Plasma Universe (Presentation to the King of Sweden and the Grand Duke of Luxemburg to the Royal Institute of Technology, October 16, 1991), Internal Report 91-103, Department of Plasma Physics, The Royal Institute of Technology, October 1991.
113. Bohm, M. and Brenning, N., Fälthammar, C.-G., Dynamic Trapping of Electrons in the Porcupine Ionospheric Ion Beam Experiment, Paper presented at the COSPAR General Assembly, the Hague, 1990, Adv. Space Res. Vol. 12, No 12. pp. 9-14, 1992.
114. Rothwell, P., Silevitch, M., Block, L. P. and Fälthammar, C.-G., Acceleration and Stochastic Heating of Ions Drifting Through an Auroral Arc, *J. Geophys. Res.*, 97, 19333-19339, 1992.
115. Peratt, A. L., Fälthammar, C.-G. and Rynn, N., Guest Editorial: Plasma Experiments in the Laboratory and in Space, *IEEE Transactions on Plasma Science*, 20, 573-576, 1992.
116. Fälthammar, C.-G., The Magnetosphere as a Sample of the Plasma Universe, Proc. 1991 Annual Meeting of the Nordic Society for Space Research, Klintholm Havn, Møn, Denmark, 18-21 Nov. 1991, Danish Meteorological Institute 1993, pp. 25-42.
117. Marklund, G. T., Blomberg, L., Fälthammar, C.-G., Lindqvist, P.-A., Haerendel, G., Mozer, F., Pedersen, A., and Tanskanen, P., F1 Electric Field Experiment, The Freja Scientific Satellite, 3rd Edition, Ed. M. André, IRF Scientific Report, 214, 41-66, 1993.
118. Fälthammar, C.-G., Laboratory and Space Experiments as a Key to the Plasma Universe, Invited Opening Lecture for the Saha Centenary Symposium on Plasma Science and Technology, Allahabad, India, 11-14 October, 1993. Ed. I. M. L. Das, Allied Publishers, New Delhi, pp.25-44, 1994.
119. Fälthammar, C.-G., Magnetospheric Plasma Interactions (Invited Lecture at the UN/ESA Workshop on Basic Space Science for the Benefit of Developing Countries, San José, Costa Rica, 1-7 November 1992), *Astrophysics and Space Science*, 214, 3-17, 1994.
120. Rothwell, P., Silevitch, M., Block, L. P. and Fälthammar, C.-G., O⁺ Phase Bunching and Auroral Arc Structure, *J. Geophys. Res.* 99, 2461-2470, 1994.

121. Marklund, G. T., Blomberg, L. G., Fälthammar, C.-G., Lindqvist, P.-A., On Intense Diverging Electric Fields Associated with Black Aurora, *Geophys. Res. Letters*, 21, 1859-1862, 1994.
122. Fälthammar, C.-G., Hannes Alfvén, Invited Opening Lecture at the International Workshop on Alfvén Waves, Rio de Janeiro 8-10 November 1994.
123. Harvey, P., Mozer, F. S., Pankow, D., Wygant, J., Maynard, N. C., Singer, H., Sullivan, W., Anderson, P. B., Pfaff, R., Agggson, T., Pedersen, A., Fälthammar, C.-G., and Tanskanen, P., The Electric Field Instrument on the Polar Satellite, *Space Sci. Rev.*, 71, 583-596, 1995, reprinted in *The Global Geospace Mission*, pp. 583-596, Kluwer Academic Publishers, 1995.
124. Marklund, G. T., Blomberg, L. G., Fälthammar, C.-G., Lindqvist, P.-A., On the Occurrence and Characteristics of Intense Low-Altitude Electric Fields Observed by Freja, *Ann. Geophys.*, 13, 704-712, 1995.
125. Marklund, G. T., Blomberg, L. G., Lindqvist, P.-A., Fälthammar, C.-G., Haerendel, G., Mozer, F.S., Pedersen, A. and Tanskanen, P., The Double Probe Electric Field Experiment on Freja: Experiment Description and First Results, *Space Sci. Rev.*, 70, 483-508, 1994, also pp.79-104 in *The Freja Mission*, Kluwer Academic Publishers, 1995.
126. Rothwell, P., Silevitch, M., Block, L. P. and Fälthammar, C.-G., Particle Dynamics in a Spatially Varying Electric Field, *J. Geophys. Res.*, 100, 14875-14885, 1995.
127. Fälthammar, C.-G., and Brenning, N., Magnetosphere- Ionosphere Interactions as a Key to the Plasma Universe (Invited Plenary Lecture at the International Conference on Plasma Physics, Santa Fé, 6 - 10 June, 1994) *IEEE Trans. Plasma Science*, 23, 2-9, 1995.
128. Wu, D.-J., Wang, D-Y., and Fälthammar, C.-G., An Analytical Solution of Finite-Amplitude Solitary Kinetic Alfvén Waves, *Phys. Plasmas*, 2, 4476-4481, 1995.
129. Rothwell, P., Silevitch, M., Block, L. P. and Fälthammar, C.-G., Single Ion Dynamics and Multiscale Phenomena, *Proc. Conference on Coupling of Micro and Mesoscale Transport Processes in Space Plasma Transport*, Guntersville, Alabama, 16-19 October 1994, pp. 151-154 in *Cross-Scale Coupling in Space Plasmas*, Ed. J Horwitz, N Singh and J Burch, AGU Geophysical Monograph 93, American Geophysical Union, December 1995..
130. Rothwell, P., Silevitch, M., Block, L. P. and Fälthammar, C.-G., Ion Phase Bunching as a Cause of Multiscale Phenomena, pp. 697-702 in *Physics of Space Plasmas*, Eds. T. Chang and J. R. Jasperse, MIT Press 1996 (= Proceedings of the 1995 Cambridge Symposium/Workshop - Multiscale Phenomena in Space Plasmas, Bermuda, 20-25 February 1995).
131. Rothwell, P., Silevitch, M., Block, L. P. and Fälthammar, C.-G., O+ Ions and Substorm Onsets, p. 591 in *Proceedings of the 2nd International Conference on Substorms*, Fairbanks, Alaska, 7-11 March, 1994, Ed. J. Kan, J. Craven and S.-I. Akasofu, University of Alaska Press 1995.
- 131a Fälthammar, C.-G., Hannes Alfvén, Invited Opening Lecture at the International Workshop on Alfvén Waves, Rio de Janeiro 8-10 November 1994, *Physics Scripta T60*, 7-9, 1995.
132. Fälthammar, C.-G. and Dessler, A. J., Hannes Alfvén (1908-1995), *Eos, Transactions of the American Geophysical Union*, 76, 385-387, 1995.

133. Fälthammar, C.-G., In Memoriam Hannes Alfvén, *Astrophys. Space Sci.*, 234, 173-175, 1995.
134. Fälthammar, C.-G., Magnetospheric Plasma Processes (Invited Lecture at the 34th Aerospace Science Meeting, Reno, Nevada, January 15-18, 1996) American Institute of Aeronautics and Astronautics, Report AIAA 96-0142, 1996,
135. Mishin, V., M., Banin, V.G., Lunyushkin, S.B., and Fälthammar, C.-G., Magnetospheric Substorms and Solar Flares, ESA-SP 389 (Proc. ICS-3, Third International Conference on Substorms, Versailles, France, 15-17 May, 1996), pp. 731-736, 1996.
136. Wang, D.-Y., Huang. G., L., Fälthammar, C.-G., Lindqvist, P.-A., Blomberg, L. and Song, L., T., Nonlinear Kinetic Alfvén Wave with Poisson Equation Correction in the Low Aurora, *Astrophysics and Space Science*, 240, 175-186, 1996.
137. Wang, D., Y., Huang, D., Y., and Fälthammar, C.-G., Solitary Kinetic Alfvén Wave in the Two-Fluid Model, *Physics of Plasmas*, 3, 2879, 1996.
138. Wu, D., J., Wang, D., Y., and Fälthammar, C.-G., Coupling Alfvénic and Ion-Acoustic Solitons, *Chinese Physics Letters*, 13, 594-597, 1996.
139. Gustafsson, G., Blomberg, L., Boström, R., Cattell, C., Cornilleau-Wehlin, N., Decreau, P., Egeland, A., Fälthammar, C.-G., Grard, R., Gurnett, D., Gustafsson, G. (PI), Harvey, C., Holback, B., Holmgren, G., Holter, Ø., Holtet, J., Kellogg, P., Kintner, P., Klimov, S., Lebreton, J.-P., Lindqvist, P.-A., Manning, R., Marklund, G., Maynard, N., Mozer, F., Mursula, K., Pedersen, A., Pecseli, H., Pfaff, R., Roth, I., Raux, A., Schmidt, R., Singer, H., Stasiewicz, K., Tanskanen, P., Temerin, M., Thrane, E., Woolliscroft, L. J. C., Wygant, J., The Electric field and Wave Experiment for the Cluster Mission, *Space Sci. Rev.*, 136-156, 1997.
140. Fälthammar, C.-G., Plasma Physics from Laboratory to Cosmos – The Life and Achievements of Hannes Alfvén (Invited Plenary Lecture at ICOPS '96, Boston, MA, June 3-5, 1996), *IEEE Transactions on Plasma Science*, 25, 409-414, 1997.
141. Wang, D.-Y., Huang. G., L., Wu, D. J., Fälthammar, C.-G., Solitary Kinetic Alfvén Waves in Low Aurora, *Proc. of Asia Pacific Plasma Theory Conference*, Toki (Nagoya), Japan, Sept. 24 - 26, 1997.
142. Fälthammar, C.-G., The Heritage of Hannes Alfvén (Invited Opening Speech at the First Alfvén Conference of the European Geophysical Society, Kiruna, Sweden, 9-13 September, 1996), *Phys. Chem. Earth*, 22, 599-604, 1997.
143. Marklund, G., T., Blomberg, L., G., Karlsson, T., Lindqvist, P.-A., Fälthammar, C.-G., Johnson, M., Murphree, J. S., Andersson, L., Eliasson, L., Opgenoorth, H. J., and Zanetti, L. J., Observations of the Electric Field Fine Structure Associated with the Westward Travelling Surge and Large Scale Auroral Spirals, *J. Geophys. Res.*, 103, 4125-4144, 1998.
144. Rothwell, P., Silevitch, M. B., Block, L. B. and Fälthammar, C.-G., Inertial Currents and Substorm Onsets, pp. 447-452 in *Proceedings of the 3rd International Conference on Substorms (ICS-3)*, Versailles, 12-17 May, 1996, ESA SP-389, 1996.- and Large-Scale Auroral Spirals, *J. Geophys. Res.*, 103, 4125-4144, 1998.

145. Block, L. B., Fälthammar, C.-G., Rothwell, P. L., and Silevitch, M. B., Advantages of Electric Circuit Models for Treating the Substorm Breakup Problem, Manuscript, *J. Geophys. Res.*, 103, 6913-6916, 1998.
146. Fälthammar, C.-G., From Plasma Laboratory to Plasma Universe – the Life and Legacy of Hannes Alfvén, pp. 3-11 in *Physics of Space Plasmas (1998)*, Proceedings of the 1998 Cambridge Symposium/Workshop in Geoplasma Physics, Ed. T. Chang and J., R. Jasperse, MIT 1998.
147. Rothwell, P., Silevitch, M. B., Block, L. B. and Fälthammar, C.-G., O+ Phase Bunching, Oblique Alfvén Waves and Auroral Arcs, pp. 289-294 in *Physics of Space Plasmas (1998)*, Proceedings of the 1998 Cambridge Symposium/Workshop in Geoplasma Physics, Ed. T. Chang and J., R. Jasperse, MIT 1998.
148. Mishin, V., M. and Fälthammar, C.-G., Pseudo and True Substorm Onsets Within Framework of the analogy "Magnetospheric Substorms - Solar Flares", p. 319 in Proceedings of International Conference on Substorms 4, Lake Hamana, Japan, March 9-13, 1998, Ed. S. Kokobun and Y. Kamide. Kluwer academic Publishers, Astrophysics and Space Science Library, vol. 238, 1998
149. Silevitch, M. B., Rothwell, P., Block, L. B. and Fälthammar, C.-G., O+ Phase Bunching as a Source for stable Auroral Arcs, *J. Geophys. Res.*, 105, 10739-10749, 2000.
150. Rothwell, P., Silevitch, M. B., Block, L. B. and Fälthammar, C.-G., The Role of O+ Ions in Channeling Solar Wind Energy to the Ionosphere, *IEEE Transactions on Plasma Science*, 28, no. 6, 1912-1919, 2000.
151. Pedersen, A., Fälthammar, C.-G., Maynard, N., Mozer, F., Pfaff, R., Popielawska, B. and Russell, C. T., Turbulent Structures in the Outer Cusp, pp. 291-294 in Proc. Cluster-II Workshop on multiscale/Multipoint Plasma Measurements, London 22-24 September 1999, ESA SP-449, 2000.
152. Rothwell, P. L., Burke, W. J., and Fälthammar, C.-G., Access of Plasma Sheet Ions to the Inner Magnetosphere, 39th AIAA Aerospace Sciences Meeting and Exhibit, 8-11 January 2001, Reno, NV, AIAA- 2001-0241, 2001.
153. Wang, D.-Y, Huang, G.-L, and Fälthammar, C.-G, On the Envelope Soliton Below the H+ Gyrofrequency In Low Auroral Region, *Astrophys. Space. Sci.*, 282, 421-432, 2002.
154. Fälthammar, G.-G., Lars Block (1925-2002), *Eos, Transactions of the American Geophysical Union*, 84,3-4,2003.
155. Peratt, A. L., and Fälthammar, C.-G., Guest Editorial, Sixth Special Issue on Space and Cosmic Plasma, *IEEE Transactions on Plasma Science*, 31, 1109-1111, 2003.
156. Fälthammar, G.-G., Magnetic-Field Aligned Electric Fields (Invited lecture at the Sixth Latin American Conference on Space Geophysics, Tomé, Chile, Oct. 1-5, 2001), *Géofísica International*, 43, 225-239, 2004.
157. Brenning, N. and Fälthammar, C.-G., Dynamic Trapping and Skidding of Dense Plasma Clouds, *Physica Scripta*, 70, 153-156, 2004.

158. Fälthammar, C.-G.: From Magnetohydrodynamic Waves to Plasma Universe -- Highlights of Hannes Alfvén's Scientific Work, pp. 8-27 in *Historical Events and People in Aeronomy, Geomagnetism and Solar-Terrestrial Physics*, J. Hist. Geophysics and Cosmical Physics, Vol.VII, No. 1, Science Edition, Bremen 2006.
159. Fälthammar, C.-G.: Comments on the Motion of Magnetic Field Lines *Am. J. Phys.*, 74, 454-455, 2006.
160. Fälthammar, C.-G., "Hannes Alfvén - a Biographical Memoir", *Proc. Am. Phil. Soc.*, 150, 649-662, 2006.
161. Fälthammar, G.-G., and Mozer, F. S., On the Concept of Moving Magnetic Field Lines, *Eos*, 88, No. 15, 169-170, 2007. "Correction" in *Eos*, 88, No. 19, 210, 2007a.
162. Fälthammar, C.G., "Hannes Alfvén", p. 31 in *Biographical Encyclopedia of Astronomers*, Ed. Thomas Hockey *et al.*, Springer, New York, 2007b.
163. Fälthammar, C.-G., The Discovery of Magnetohydrodynamic Waves, *J. Atm. Solar Terr. Phys*, in press 2007c.
164. Fälthammar, C.-G., and Gubbins, D., "Alfvén, H. (1908-1995)", *Encyclopedia of Geomagnetism and Paleomagnetism*, Springer, in press 2007d.