BRIEF CV AND PUBLICATION LIST

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Douglas C. Hamilton

1. PERSONAL INFORMATION

Professor
Department of Physics
University of Maryland
College Park, MD 20742

email: dch@umd.edu
phone: (301) 405-6207
office: Computer and Space Sciences Building
Room 3201

Year of Appointment to current rank: 1998

EDUCATION

Degree	Institution	Date
A.B. (Physics and Mathematics)	University of Kansas	1969
M.S. (Physics)	University of Chicago	1971
Ph.D. (Physics)	University of Chicago	1977

EXPERIENCE IN HIGHER EDUCATION

Professor	University of Maryland	1998-
Associate Professor	University of Maryland	1991-1998
Assistant Professor	University of Maryland	1985-1991
Senior Research Associate	University of Maryland	1981-1985
Research Associate	University of Maryland	1978-1981
Research Associate	University of Chicago	1976-1978
Research Assistant	University of Chicago	1971-1976
Teaching Assistant	University of Chicago	1969-1971

EXPERIENCE IN EXPERIMENTAL SPACE PHYSICS

Co-investigator, Research on Techniques for Measurement of the Composition of Solar Energetic Particles and Low Energy Cosmic Rays (NASA, 1983-1995)

Co-investigator, Charge Energy Mass (CHEM) Experiment on the AMPTE/CCE Spacecraft (NASA, 1984-1995) (mission 1984-1989)

Co-investigator, The Acceleration and Transport of Particles Energized in Solar Flares and in the Interplanetary Medium (NSF, 1984-1993)

Co-investigator, Low Energy Charged Particle (LECP) Experiment on the Voyager 1 and 2 Spacecraft (NASA, 1985-present) (launched 1977)

Principal Investigator, Research Program on Experimental Techniques for Composition Measurements of Magnetospheric Atomic and Molecular Ions (NASA, 1987-March 1989, October 1989-December 1991)

Co-investigator, Solar, Anomalous, and Magnetospheric Particle Explorer (SAMPEX) (NASA, 1988-1999) (launched July 1992)

Co-investigator, SMS/MASS (Time-of-flight Mass Spectrometer) Experiment on the WIND spacecraft (NASA, 1989-present) (launched November 1994)

Co-investigator, EPACT/STEP (Suprathermal through Energetic Particles) Experiment on the WIND spacecraft (NASA, 1989-present) (launched November 1994)

Co-investigator, Global Electric Field Determination in the Earth's Outer Magnetosphere Using Charged Particles (NASA, 1990-1995)

Co-investigator, Magnetospheric Imaging Instrument (MIMI) for the Cassini Mission to Saturn/Titan (NASA, 1990-present) (launched October 1997)

Co-investigator, Quantitative Analysis of EMIC Wave-Particle Interactions in the Magnetosphere (NASA, 1992-1995)

Principal Investigator, Ring Current Composition and Dynamics using AMPTE/CCE CHEM Data (NASA, 1994-1996)

Co-investigator, Imager for Magnetopause-to-Aurora Global Exploration (IMAGE) Mission (NASA, 1996-2007)

Principal Investigator, The Role of Ring Current Composition in the Recovery Rate of Magnetic Storms (NSF, 1998-2000)

Co-investigator, Phase A Study for the Magnetospheric Multiscale Mission (NASA, 2003-2005)

2. RESEARCH, SCHOLARLY, AND CREATIVE ACTIVITIES

A. BOOKS

iii) Chapters in Books

1. Simpson, J.A., D.C. Hamilton, R.B. McKibben, A. Mogro-Campero, K.R. Pyle and A.J. Tuzzolino, "Characteristics of Jovian trapped electrons and protons for R ≤20 RJ, and their interaction with Io", in *The Magnetospheres of the Earth and Jupiter*, Reidel, Boston, pp. 317-324, 1975.

2. Hamilton, D.C., G. Gloeckler, F.M. Ipavich, W. Stüdemann, B. Wilken, and G. Kremser, "Ring current development during the great geomagnetic storm of February 1986", in *Space Plasma: Energetic Particles in the Earth's Magnetosphere*, V.V Temny and V.V. Migulin eds., Moscow, pp. 361-402, 1990 (in Russian).

3. Gloeckler, G., F.M. Ipavich, W. Stüdemann, B. Wilken, D.C. Hamilton, G. Kremser, D. Hovestadt, F. Gliem, W. Rieck, R. A. Lundgren, E. O. Tums, J. C. Cain, L. S. Ma Sung, W. Weiss, and P. Winterhof, "The Charge-Energy-Mass spectrometer for 0.3 to 300 keV/e ions on the AMPTE CCE", in *Space Plasma: Energetic Particles in the Earth's Magnetosphere*, V.V Temny and V.V. Migulin eds., Moscow, pp. 204-227, 1990 (in Russian).

4. Gloeckler, G., and D.C. Hamilton, "AMPTE ion composition results", in *Space Plasma: Energetic Particles in the Earth's Magnetosphere*, V.V Temny and V.V. Migulin eds., Moscow, pp. 322-360, 1990 (in Russian).

5. Greenspan, M.E., D.C. Hamilton, B.J. Anderson, S.A. Fuselier, and E.A. Greene, "A field-aligned ion beam observed in the magnetosheath during the February 8, 1986 magnetic storm", in *Solar Terrestrial Energy Program*, D.N. Baker, V.O. Papitashvili, and M.J. Teague eds., Pergamon Press, Oxford, pp. 231-234, 1994.

6. Christon, S.P., G. Gloeckler, D.C. Hamilton, and F.M. Ipavich, "A method for estimating the solar wind H^+ contribution to magnetospheric plasma", in *Solar Terrestrial Energy Program*, D.N. Baker, V.O. Papitashvili, and M.J. Teague eds., Pergamon Press, Oxford, pp. 239-242, 1994.

7. Kamide, Y., R.L. McPherron, W.D. Gonzalez, D.C. Hamilton, H.S. Hudson, J.A. Joselyn, S.W. Kahler, L.R. Lyons, H. Lundstedt, and E. Szuszczewicz, "Magnetic storms: current understanding and outstanding questions", in *Magnetic Storms, Geoophysical Monograph 98*, B.T. Tsurutani, W.D. Gonzalez, Y. Kamide, and J.K. Arballo, eds., American Geophysical Union, pp. 1-19, 1997.

B. ARTICLES IN REFEREED JOURNALS

1. Simpson, J.A., D. Hamilton, G. Lentz, R.B. McKibben, A. Mogro-Campero, M. Perkins, K.R. Pyle, and A.J. Tuzzolino, Protons and electrons accelerated in Jupiter's magnetic field: results from the University of Chicago experiment, *Science*, *183*, 305-309, 1974.

2. Simpson, J.A., D.C. Hamilton, R.B. McKibben, A. Mogro-Campero, K.R. Pyle, and A.J. Tuzzolino, The protons and electrons trapped in the Jovian dipole magnetic field region and their interaction with Io, *J. Geophys. Res.*, *79*, 3522-3544, 1974.

3. Simpson, J.A., D.C. Hamilton, G.A. Lentz, R.B. McKibben, M. Perkins, K.R. Pyle, A.J. Tuzzolino, and J.J. O'Gallagher, Jupiter revisited: first results from the University of Chicago charged particle experiment on Pioneer 11, *Science*, *188*, 455-459, 1975.

4. Hamilton, D.C., The radial transport of energetic solar flare particles from 1 to 6 AU, *J. Geophys. Res.*, *82*, 2157-2169, 1977.

5. Hamilton, D.C., and J.A. Simpson, Jovian electron propagation out of the solar equatorial plane: Pioneer 11 observations, *Astrophys. J. (Letters)*, *228*, L123-L127, 1979.

6. Krimigis, S.M., T.P. Armstrong, W.I. Axford, C.O. Bostrom, C.Y. Fan, G. Gloeckler, L.J. Lanzerotti, E.P. Keath, R.D. Zwickl, J. F. Carbary, and D.C. Hamilton, Low-energy charged particle environment at Jupiter: a first look, *Science*, *204*, 998-1003, 1979.

7. Krimigis, S.M., T.P. Armstrong, W. I. Axford, C.O. Bostrom, C.Y. Fan, G. Gloeckler, L.J. Lanzerotti, E. P. Keath, R.D. Zwickl, J. F. Carbary, and D.C. Hamilton, Hot plasma environment at Jupiter: Voyager-2 results, *Science*, *206*, 977-984, 1979.

8. Krimigis, S.M., T. P. Armstrong, W. I. Axford, C.O. Bostrom, C.Y. Fan, G. Gloeckler, L.J. Lanzerotti, D.C. Hamilton, and R.D. Zwickl, Energetic (~100 keV) tailward-directed ion beam outside the Jovian plasma boundary, *Geophys. Res. Lett.*, *7*, 13-16, 1980.

9. Hamilton, D.C., G. Gloeckler, S.M. Krimigis, C.O. Bostrom, T.P. Armstrong, W.I. Axford, C.Y. Fan, L.J. Lanzerotti, and D.M. Hunten, Detection of energetic hydrogen molecules in Jupiter's magnetosphere by Voyager 2: evidence for an ionospheric plasma source, *Geophys. Res. Lett.*, *7*, 813-816, 1980.

10. Krimigis, S.M., T.P. Armstrong, W.I. Axford, C.O. Bostrom, G. Gloeckler, E.P. Keath, L.J. Lanzerotti, J.F. Carbary, D.C. Hamilton, and E.C. Roelof, Low energy charged particles in Saturn's magnetosphere: results from Voyager-1, *Science*, *212*, 225-231, 1981.

11. Hamilton, D.C., G. Gloeckler, S.M. Krimigis, and L.J. Lanzerotti, Composition of nonthermal ions in the Jovian magnetosphere, *J. Geophys. Res.*, *86*, 8301-8318, 1981.

12. Zwickl, R.D., S.M. Krimigis, J.F. Carbary, E.P. Keath, T.P. Armstrong, D.C. Hamilton, and G. Gloeckler, Energetic particle events (>30 keV) of Jovian origin observed by Voyager 1 and 2 in interplanetary space, *J. Geophys. Res.*, *86*, 8125-8140, 1981.

13. Hamilton, D.C., Dynamics of solar cosmic ray events: processes at large heliocentric distances (>>1 AU), *Adv. Space Res.*, *1*, 25-40, 1981.

14. Krimigis, S.M., T.P. Armstrong, C.O. Bostrom, G. Gloeckler, E.P. Keath, L.J. Lanzerotti, J. F. Carbary, D.C. Hamilton, and E.C. Roelof, Low-energy hot plasma and particles in Saturn's magnetosphere, *Science*, *215*, 571-577, 1982.

15. Hamilton, D.C., D.C. Brown, G. Gloeckler, and W.I. Axford, Energetic atomic and molecular ions in Saturn's magnetosphere, *J. Geophys. Res.*, *88*, 8905-8922, 1983.

16. Gloeckler, G., F.M. Ipavich, W. Stüdemann, B. Wilken, D.C. Hamilton, G. Kremser, D. Hovestadt, F. Gliem, W. Rieck, R. A. Lundgren, E.O. Tums, J.C. Cain, L.S. MaSung, W. Weiss, and P. Winterhof, The Charge-Energy-Mass spectrometer for 0.3 to 300 keV/e ions on the AMPTE CCE, *IEEE Trans. Geosci. Electron., GE-23*, 3, 234-240, 1985.

17. Gloeckler, G., B. Wilken, W. Stüdemann, F.M. Ipavich, D. Hovestadt, D.C. Hamilton, and G. Kremser, First composition measurement of the bulk of the storm time ring current (1 to 300 keV/e) with AMPTE-CCE, *Geophys. Res. Lett., 12*, 325-328, 1985.

18. Kremser, G., W. Stüdemann, B. Wilken, G. Gloeckler, D.C. Hamilton, and F.M. Ipavich, Charge state distributions of oxygen and carbon in the energy range 1 to 300 keV/e observed with AMPTE/CCE in the magnetosphere, *Geophys. Res. Lett., 12*, 847-850, 1985.

19. Gloeckler, G., F.M. Ipavich, D.C. Hamilton, B. Wilken, W. Stüdemann, G. Kremser, and D. Hovestadt, Solar wind Carbon, Nitrogen and Oxygen abundances measured in the Earth's magnetosheath with AMPTE/CCE, *Geophys. Res. Lett., 13*, 793-796, 1986.

20. Krimigis, S.M., T.P. Armstrong, W.I. Axford, A. F. Cheng, G. Gloeckler, D.C. Hamilton, E.P. Keath, L.J. Lanzerotti, and B.H. Mauk, The magnetosphere of Uranus: hot plasma and radiation environment, *Science*, *233*, 97-192, 1986.

21. Kremser, G., W. Stüdemann, B. Wilken, G. Gloeckler, D.C. Hamilton, and F.M. Ipavich, Average spatial distributions of energetic O^{+}, O^{2+}, O^{6+} and C^{6+} ions in the magnetosphere observed by AMPTE CCE, *J. Geophys. Res., 92,* 4459-4466, 1987.

22. Gloeckler, G., and D.C. Hamilton, AMPTE ion composition results, *Physica Scripta , T18* , 73-84, 1987.

23. Beeck, J., G.M. Mason, D.C. Hamilton, G. Wibberenz, H. Kunow, D. Hovestadt, and B. Klecker, A multi-spacecraft study of the injection and transport of solar energetic particles, *Astrophys. J., 322*, 1052-1072, 1987.

24. Mauk, B. H., S.M. Krimigis, E.P. Keath, A. F. Cheng, T.P. Armstrong, L.J. Lanzerotti, G. Gloeckler, and D.C. Hamilton, The hot plasma and radiation environment of the Uranian magnetosphere, *J. Geophys. Res., 92*, 15283- 15308, 1987.

25. Kremser, G., W. Stüdemann, B. Wilken, G. Gloeckler, D.C. Hamilton, and F.M. Ipavich, Observations of energetic oxygen and carbon ions with charge states between 3 and 6 in the magnetosphere, *Ann. Geophys., 6*, 325-334, 1988.

26. Ipavich, F.M., G. Gloeckler, D.C. Hamilton, and L.M. Kistler, Protons and alpha particles in field-aligned beams upstream of the bow shock, *Geophys. Res. Lett., 15*, 1153-1156, 1988.

27. Hamilton, D.C., G. Gloeckler, F.M. Ipavich, W. Stüdemann, B. Wilken, and G. Kremser, Ring current development during the great geomagnetic storm of February 1986, *J. Geophys. Res., 93*, 14343-14355, 1988.

28. Blake, J.B., R.D. Belian, D.R. Croley, J.F. Fennell, G. Gloeckler, D.C. Hamilton, and D.N. Baker, The 8 February 1986 magnetosphere compression event: observations of simultaneous magnetospheric leakage and specularly reflected solar wind ions, *Adv. Space Res., 8*, (9)197-(9)200, 1988.

29. Daglis, I.A., G. Kremser, W. Stüdemann, B. Wilken, G. Gloeckler, D.C. Hamilton, and F.M. Ipavich, Observations of the ion distribution in the nightside magnetosphere during substorm-associated dropout events, *Adv. Space Res., 8*, (9)987-(9)990, 1988.

30. Kistler, L.M., D.C. Hamilton, F.M. Ipavich, and G. Gloeckler, The ion energy spectra in the ring current during the geomagnetic storm of February 1986, *Adv. Space Res., 9*, (12)183-(12)186, 1989.

31. Kistler, L.M., F.M. Ipavich, D.C. Hamilton, G. Gloeckler, B. Wilken, G. Kremser, and W. Stüdemann, The energy spectra of the major ion species in the ring current during geomagnetic storms, *J. Geophys. Res.*, 94, 3579-3599, 1989.

32. Krimigis, S.M., T.P. Armstrong, W.I. Axford, C.O. Bostrom, A.F. Cheng, G. Gloeckler, D.C. Hamilton, E.P. Keath, L.J. Lanzerotti, B.H. Mauk, and J.A. Van Allen, Hot plasma and energetic particles in Neptune's magnetosphere, *Science*, *246*, 1483-1489, 1989.

33. Beeck, J., G.M. Mason, R.G. Marsden, D.C. Hamilton, and T.R. Sanderson, Injection and diffusive transport of suprathermal through energetic solar flare protons (35 keV to 20 MeV), *J. Geophys. Res.*, *95*, 10279-10290, 1990.

34. Kistler, L.M., E. Möbius, B. Klecker, G. Gloeckler, F.M. Ipavich, and D.C. Hamilton, Spatial variations in the suprathermal ion distributions during substorms in the plasma sheet, *J. Geophys. Res.*, *95*, 18871-18886, 1990.

35. Hamilton, D.C., G. Gloeckler, F.M. Ipavich, R.A. Lundgren, R.B. Sheldon, and D. Hovestadt, A new high resolution electrostatic ion mass analyzer using time of flight, *Rev. Sci. Instrum., 61*, 3104-3106, 1990.

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37. Eastman, T.E., E.A. Greene, S.P. Christon, G. Gloeckler, D.C. Hamilton, F.M. Ipavich, G. Kremser, and B. Wilken, Ion composition in and near the frontside boundary layer, *Geophys. Res. Lett.*, *17*, 2031-2034, 1990.

38. Kistler, L.M., E. Möbius, W. Baumjohann, G. Paschmann, and D.C. Hamilton, Pressure changes in the plasma sheet during substorm injections, *J. Geophys. Res.*, *97*, 2973-2983, 1992.

39. Gloeckler, G. J. Geiss, H. Balsiger, P. Bedini, J.C. Cain, J. Fischer, L.A. Fisk, A.B. Galvin, F. Gliem, D.C. Hamilton, J.V. Hollweg, F.M. Ipavich, R. Joos, S. Livi, R. Lundgren, U. Mall, J.F. McKenzie, K.W. Ogilvie, F. Ottens, W. Rieck. E.O. Tums, R. von Steiger, W. Weiss, and B. Wilken, The solar wind ion composition spectrometer, *Astron. Astrophys. Suppl. Ser., 92*, 267-289, 1992.

40. Geiss, J., G. Gloeckler, H. Balsiger, L.A. Fisk, A.B. Galvin, F. Gliem, D.C. Hamilton, F.M. Ipavich, S. Livi, U. Mall, K.W. Ogilvie, R. von Steiger, and B. Wilken, Plasma composition in Jupiter's magnetosphere: initial results from the solar wind ion composition spectrometer, *Science, 257*, 1535-1539, 1992.

41. Lui, A.T.Y. and D.C. Hamilton, Radial profiles of quiet time magnetospheric parameters, *J. Geophys. Res., 97*, 19325-19332, 1992.

42. Anderson, B.J. and D.C. Hamilton, Electromagnetic ion cyclotron waves stimulated by modest magnetospheric compressions, *J. Geophys. Res., 98,* 11,369-11,382, 1993.

43. Kozyra, J.U., M.O. Chandler, D.C. Hamilton, W.K. Peterson, D.M. Klumpar, D.W. Slater, M.J. Buonsanto, and H.C. Carlson, The role of ring current nose events in producing stable auroral red arc intensifications during the main phase: Observations during the September 19-24, 1984 equinox transition study, *J. Geophys. Res.*, *98,* 9267-9283, 1993.

44. Sheldon, R.B. and D.C. Hamilton, Ion transport and loss in the earth's quiet ring current 1. Data and standard model, *J. Geophys. Res.*, *98,* 13,491-13,508, 1993.

45. Kremser, G., B. Wilken, G. Gloeckler, D.C. Hamilton, F.M. Ipavich, L.M. Kistler, and P. Tanskanen, Origin, transport, and losses of energetic He^{+} and He^{++} ions in the magnetosphere of the Earth: AMPTE/CCE observations, *Ann. Geophys., 11,* 354-365, 1993.

46. Mason, G.M., D.C. Hamilton, P.H. Walpole, K.F. Heuerman, T.L. James, M.H. Lennard, and J.E. Mazur, LEICA: A low energy ion composition analyzer for the study of solar and magnetospheric ions, *IEEE Trans. Geosci. and Remote Sensing, 31,* 549-556, 1993.

47. Mewaldt, R.A., A.C. Cummings, J.R. Cummings, E.C. Stone, B. Klecker, D. Hovestadt, M. Scholer, G.M. Mason, J.E. Mazur, D.C. Hamilton, T.T. von Rosenvinge, and J.B. Blake, The return of the anomalous cosmic rays to 1 AU in 1992, *Geophys. Res. Lett., 20*, 2263-2266, 1993.

48. Kozyra, J.U., M.O. Chandler, D.C. Hamilton, W.K. Peterson, D.M. Klumpar, D.W. Slater, M.J. Buonsanto, and H.C. Carlson, Correction to 'The role of ring current nose events in producing stable auroral red arc intensifications during the main phase: Observations during the September 19-24, 1984 equinox transition study', *J. Geophys. Res.*, *98,* 19471, 1993.

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51. Collier, M.R. and D.C. Hamilton, The relationship between kappa and temperature in energetic ion spectra at Jupiter, *Geophys. Res. Lett., 22,* 303-306, 1995.

52. Klecker, B., MC. McNab, J.B. Blake, D.C. Hamilton, D. Hovestadt, H. Kästle, M.D. Looper, G.M. Mason, J.E. Mazur, and M. Scholer, Charge state of anomalous cosmic-ray nitrogen, oxygen, and neon: SAMPEX observations, *Astrophys. J., 442,* L69-L72, 1995.

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59. Bochsler, P., M. Gonin, R.B. Sheldon, Th. Zurbuchen, G. Gloeckler, D.C. Hamilton, M.R. Collier, and D. Hovestadt, Abundances of solar wind magnesium isotopes determined with WIND/MASS, *Solar Wind Eight,* AIP Conference Proceedings 382, 199-202, 1996.

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112. Mitchell, D.G., W.S. Kurth, G.B Hospodarsky, N. Krupp, J. Saur, B.H. Mauk, J.F. Carbary, S.M. Krimigis, M.K.Dougherty, and D.C. Hamilton, *J. Geophys. Res., 114*, A02212, doi:10.1029/2008JA013621, 2009.

113. Dialynas, K., S.M. Krimigis, D.G. Mitchell, D.C. Hamilton, N. Krupp, and P.C. Brandt, Energetic ion spectral characteristics in the Saturnian magnetosphere using Cassini/MIMI measurements, *J. Geophys. Res., 114*, A01212, doi:10.1029/2008JA013761, 2009.

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F. Papers published in their entirety, not as abstracts, in proceedings of scientific meetings and conferences (unrefereed)

1. Hamilton, D.C., G. Gloeckler, T. P. Armstrong, W. I. Axford, C.O. Bostrom, C.Y. Fan, S.M. Krimigis, and L.J. Lanzerotti, "Recurrent energetic particle events associated with forward/reverse shock pairs near 4 AU in 1978", *Proc. 16th Intl. Cosmic Ray Conf.*, (Kyoto), *5*, 363-367, 1979.

2. Hamilton, D.C., and G. Gloeckler, "Evolution of the energetic particle composition during the November 1977 solar flare event as observed by Voyager 2", *Proc. 17th Intl. Cosmic Ray Conf.*, (Paris), *10*, 49-52, 1981.

3. Hamilton, D.C., G. Gloeckler, and B. Klecker, "The September 1979 solar cosmic ray event", *Proc. 18th Intl. Cosmic Ray Conf.*, (Bangalore), *10*, 314-317, 1983.

4. Stüdemann, W., G. Gloeckler, B. Wilken, F.M. Ipavich, G. Kremser, D.C. Hamilton, and D. Hovestadt, "Ion composition of the bulk ring current during a magnetic storm: Observations with the CHEM-instrument on AMPTE/CCE", Proc. Chapman Conf. on Solar Wind-Magnetosphere Coupling, February 1985, published in *Solar Wind-Magnetosphere Coupling*, Y. Kamide and J.A. Slavin, eds., 697-705, 1986.

5. Mason, G.M., D.C. Hamilton, G. Gloeckler, and B. Klecker, "Radial transport of ~1 MeV/nucleon ions during the 22 November 1977 solar particle event", *Proc. 19th Intl. Cosmic Ray Conf.*, (La Jolla), *4*, 347-350, 1985.

6. Beeck, J., G.M. Mason, D.C. Hamilton, G. Wibberenz, H. Kunow, D. Hovestadt, and B. Klecker, "A three spacecraft study of the November 22, 1977 solar particle event", *Proc. 20th Intl. Cosmic Ray Conf.*, (Moscow), *3*, 166-169, 1987.

7. Hovestadt, D., B. Klecker, P. Laeverenz, E. Seidenshwang, G.M. Mason, P. D. Bedini, G. Gloeckler, D.C. Hamilton, J.B. Blake, and D. Chenette, "Experiment for charge determination of cosmic rays of interplanetary and solar origin on the space shuttle", *Proc. 20th Intl. Cosmic Ray Conf.*, (Moscow), *4*, 406-408, 1987.

8. Hamilton, D.C., G.M. Mason, F.B. McDonald, "The radial dependence of the peak flux and fluence in solar energetic particle events", *Proc. 21st Intl. Cosmic Ray Conf.*, (Adelaide), *5*, 237-240, 1990.

9. Beeck, J., G.M. Mason, R.G. Marsden, and D.C. Hamilton, "Diffusive transport of low-energy protons during the July 20, 1981 solar flare event", *Proc. 21st Intl. Cosmic Ray Conf.*, (Adelaide), *5*, 241-244, 1990.

10. Reames, D.V. T.T. von Rosenvinge, R. Ramaty, G.M. Mason, D.C. Hamilton, M.A. Forman, and W.R. Webber, "The energetic particles: Acceleration, composition and transport (EPACT) experiment on the ISTP/WIND spacecraft", *Proc. NASA Workshop on the Cosmic Ray Program for the 1990s and Beyond, AIP Conf. Proc., 203*, 32-36, 1990.

11. Mason, G.M., D.N. Baker, J.B. Blake, L.B. Callis, D.C. Hamilton, D. Hovestadt, B. Klecker, R.A. Mewaldt, M. Scholer, E.C. Stone, and T.T. von Rosenvinge, "SAMPEX mission overview", *Proc. NASA Workshop on the Cosmic Ray Program for the 1990s and Beyond, AIP Conf. Proc., 203*, 44-47, 1990.

12. Krimigis, S.M., R. Decker, R. McNutt, D. Venkatesan, D. Hamilton, and M. Collier, "Energetic particle activity in the heliosphere, 1991-1995", *Proc. 24th Intl. Cosmic Ray Conf.*, (Rome), *4*, 401-404, 1995.

13. Hamilton, D.C., M.E. Hill, R.B. Decker, and S.M. Krimigis, "Temporal and spatial variations in the spectra of low energy ions in the outer heliosphere, *Proc. 25th Intl. Cosmic Ray Conf.* (Durban), *2*, 261-264, 1997.

14. Krimigs, S.M., R.B. Decker, D.C. Hamilton, and M.E. Hill, "Energetic ions in the outer heliosphere, 1992-1997", *Proc. 25th Intl. Cosmic Ray Conf.* (Durban), *1*, 393-396, 1997.

15. Hamilton, D.C., M.E. Hill, G. Gloeckler, R.B. Decker, and S.M. Krimigis, "Anomalous cosmic ray spectra in the outer heliosphere: 1992-1998", *Proc. 26th Intl. Cosmic Ray Conf.* (Salt Lake City), *7*, 535-538, 1999.

16. Stone, E.C., A.C. Cummings, D.C. Hamilton, M.E. Hill, and S.M. Krimigis, "Voyager observations of anomalous and galactic cosmic rays during 1998", *Proc. 26th Intl. Cosmic Ray Conf.* (Salt Lake City), *7*, 551-554, 1999.

17. Christon, E.R., W.R. Binns, J.B. Blake, C.M.S. Cohen, A.C. Cummings, J.R. Dwyer, D.C. Hamilton, M.E. Hill, P.L. Hink, E. Keppler, S.M. Krimigis, R.A. Leske, M.D. Looper, R.G. Marsden, G.M. "Observations of the solar modulation of galactic and anomalous cosmic rays during solar minimum", *Proc. 26th Intl. Cosmic Ray Conf.* (Salt Lake City), *7*, 519-522, 1999.

18. Decker, R.B., S.M. Krimigis, A.G. Annanth, D.C. Hamilton, and M.E. Hill, "Small-scale variations in ACR intensities at Voyagers 1 and 2 in 1992-1998", *Proc. 26th Intl. Cosmic Ray Conf.* (Salt Lake City), *7*, 512-515, 1999.

19. Hill, M.E., D.C. Hamilton, J.E. Mazur, and S.M. Krimigis, The 1992-2000 recovery of anomalous cosmic ray oxygen throughout the heliosphere, *Proc. 27th Intl. Cosmic Ray Conf.* (Hamburg), *10*, 4247-4250, 2001.

20. Krimigis, S.M., R.B. Decker, Hill, D.C. Hamilton, and M.E. Hill, and G. Gloeckler, Survey of energetic particles observed at Voyagers 1 and 2 during 1999 - 2001, *Proc. 27th Intl. Cosmic Ray Conf.*(Hamburg), *9, 3607-3610*, 2001.

21. Hill, M.E., and D.C. Hamilton, Quasi-local and non-local intensity gradients of anomalous cosmic rays, *Proc. 28th Intl. Cosmic Ray Conf.* (Tsukuba), *7*, 3969-3972, 2003.

22. Hill, M.E., D.C. Hamilton, R.B. Decker, and S.M. Krimigis, Sustained energetic particle intensity enhancements at Voyager 1 beginning in 2002, *Proc. 28th Intl. Cosmic Ray Conf.* (Tsukuba), *7*, 3893-3896, 2003.

G. Technical reports

1. Collier, Michael R., R.A. Lundgren and D.C. Hamilton, "Channeling in ion implanted silicon solid-state detectors", Univ. of Maryland Technical Report, BN1077, PP89-001, July, 1988.

J. FELLOWSHIPS, PRIZES, AND AWARDS

1965-1969	Summerfield Scholar at the University of Kansas
1968	Phi Beta Kappa
1969	Graduated "With Highest Distinction", University of Kansas
1981	NASA Group Achievement Award: Voyager Jupiter Exploration
1985	NASA Group Achievement Award: AMPTE Project Team
1986	NASA Group Achievement Award: Voyager Uranus Exploration
1990	NASA Group Achievement Award: Voyager Neptune Exploration
1990	NASA Group Achievement Award: AMPTE mission operations
1993	NASA Group Achievement Award: Ulysses Jupiter Encounter
1994	NASA Group Achievement Award: SAMPEX Science Team
1998	NASA Group Achievement Award: Cassini program, MIMI Instrument Team
2001	NASA Group Achievement Award: IMAGE Mission
2001	NASA Group Achievement Award: IMAGE/LENA Development Team
2006	NASA Group Achievement Award: Voyager Interstellar Mission Team

3. TEACHING AND ADVISING

A. COURSES TAUGHT IN THE LAST FIVE YEARS

i) General courses, survey courses, general introductory courses, etc.

Course No.	Title	No. of credits	No. of students	Semester
Phys 115	Inquiry in Physics	3	21	Spr 09
Phys 121	Fundamental of Physics I	4	185	Fall08
Phys 115	Inquiry in Physics	3	20	Spr 08
Phys 121	Fundamental of Physics I	4	188	Fall 07
Sabbatical				Fall 06/Spr07
Phys 405	Advanced Experiments	3	20	Spr 06
Phys 106	Light, Perception, Visual Phenomena	3	76	Fall 05
Phys 405	Advanced Experiments	3	14	Spr 05
Phys 106	Light, Perception, Visual Phenomena	3	104	Fall 04
Phys 405	Advanced Experiments	3	13	Spr 04
Phys 106	Light, Perception, Visual Phenomena	3	110	Fall 03
Phys 275	Experimental Physics I	2	11	Spr 03

ii) Specialized courses

Phys 778	Space and Cosmic Ray Physics	1	1	Spr09
Phys 778	Space and Cosmic Ray Physics	1	4	Fall08
Phys 778	Space Physics Seminar	1	4	Fall 07
Phys 778	Space Physics Seminar	1	2	Spr 07
Phys 778	Space Physics Seminar	1	3	Fall 06
Phys 778	Space Physics Seminar	1	3	Spr 06
Phys 778	Space Physics Seminar	1	2	Fall 05
Phys 778	Space Physics Seminar	1	2	Spr 05
Phys 778	Space Physics Seminar	1	2	Fall 04
Phys 778	Space Physics Seminar	1	1	Spr 04

iv) Independent study, tutorial, internship supervision (other than research direction)

Phys 386	Experiential Learning	3	1	Spr 09
Phys 386	Experiential Learning	4	1	Spr 08
Phys 299	Special Problems in Physics	1	1	Spr 05
Phys 499A	Special Problems in Physics	1	1	Spr 05
Phys 499A	Special Problems in Physics	1	1	Fall 04
Phys 499A	Special Problems in Physics	1	1	Spr 04
Phys 499A	Special Problems in Physics	3	1	SumI 03
Phys 389	Undergraduate Thesis Research	1	1	Spr 03
Phys 499B	Individual Problems	1	1	Spr 03

F. ADVISING: RESEARCH DIRECTION

iii) Doctoral

		Thesis Title
1986 - 1990 June 1990 (PhD)	Robert B. Sheldon	Ion Transport and Loss in the Quiet Terrestrial Ring Current
1988 - 1993 August 1993 (PhD)	Michael R. Collier	Energetic Particle Acceleration in the Jovian Magnetosphere
1991 - 1998 August 1998 (PhD)	George C. Ho	Helium-3 Enhancements and Unusual Ion Charge State Composition in Coronal Mass Ejections
1996 - 2001 December 2001 (PhD)	Matthew E. Hill	Transport Phenomena of Anomalous Cosmic Rays During the Recovery Phase of Solar Cycle 22
2005 – Aug. 2007	S. Craig Stutts	*Took a terminal M.S. degree (August 2007)*
2005 - present	Robert DiFabio	