

CURRICULUM VITA: PETER J. CARGILL

I. Present Position: Emeritus Professor of Physics, Space and Atmospheric Physics Group, The Blackett Laboratory, Imperial College and Honorary Professor, Mathematical Institute, University of St Andrews.

II. Previous Employment

October 2002 – October 2005, PPARC Senior Research Fellow

October 1999 – November 2007: Professor of Physics, Space and Atmospheric Physics Group, The Blackett Laboratory, Imperial College

September 1996 - September 1999: Reader in Space Physics, The Blackett Laboratory, Imperial College of Science Technology and Medicine.

January 1992 - August 1996: Research Physicist, Beam Physics Branch, Plasma Physics Division, U.S. Naval Research Laboratory

September 1984 - January 1992: Research Associate and subsequently Associate Research Scientist, Dept. of Physics and Astronomy, University of Maryland.

February 1982 - August 1984: Postdoctoral Research Fellow and Visiting Scientist, Advanced Study Program and High Altitude Observatory, National Center for Atmospheric Research.

October 1981 - February 1982: Postdoctoral Research Fellow, University of St. Andrews.

III. Education

B.Sc. Applied Mathematics, University of St. Andrews, Scotland, July 1978.

Ph.D., Thesis: Dynamical Processes in the Solar Atmosphere, Dept. of Applied Mathematics, University of St. Andrews, Scotland, Nov. 1981.

IV. Publications

- (1) Siphon Flows in Coronal loops, (**P.J. Cargill** and E.R. Priest), **Solar Phys.**, **65**, 251-269, (1980).
- (2) Slow Shock Heating and the Kopp - Pneuman Model for Post-Flare Loops, (**P.J. Cargill** and E.R. Priest), **Solar Phys.**, **76**, 357-375, (1982).
- (3) The Energetics of Steady State Flow in the Solar Corona, (**P.J. Cargill** and E.R. Priest), **Geophys. and Astrophys. Fluid Dynamics**, **20**, 227-245, (1982).

- (4) The Heating of Post-Flare Loops, (**P.J. Cargill** and E.R. Priest), ***Astrophys. J.***, **266**, 383-389, (1983).
- (5) Magnetohydrodynamic Stability of Line-Tied Coronal Arcades. 1. Force-Free Fields Without Embedded Prominences, (S. Migliuolo and **P.J. Cargill**), ***Astrophys. J.***, **271**, 820-831, (1983).
- (6) Diamagnetic Propulsion and Energy Balance of Magnetic Elements in the Solar Chromosphere and Transition Region, (**P.J. Cargill** and G.W. Pneuman), ***Astrophys. J.***, **276**, 369-378, (1984).
- (7) Magnetohydrodynamic Stability of Line-Tied Coronal Arcades. II. Shearless Magnetic Fields, (S. Migliuolo, **P.J. Cargill** and A.W. Hood), ***Astrophys. J.***, **281**, **413-419**, (1984).
- (8) The Development and Cooling of a Solar Limb-Flare, (N. Veck, K. Strong, G. Simnett, C. Jordan, **P.J. Cargill** and E.R. Priest), ***Monthly Notices of the Royal Astronomical Society***, **210**, 443-462, (1984).
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- (10) Suggestions for Future Investigations, (B. Roberts, G. Einandi, G. Torricelli, **P.J. Cargill** and C. Durrant) in ***Orages Solaires de Type 1***, ed. J.L. Bonqeret and A.O. Benz, CNRS, pp. 183-184, (1984).
- (11) Evolution of Diamagnetic Material in a Non-uniform Magnetic Field, (G.W. Pneuman and **P.J. Cargill**), ***Astrophys. J.***, **288**, 653-664, (1985).
- (12) The Interaction of Two Perpendicular Shocks, (**P.J. Cargill**, C.C. Goodrich and K. Papadopoulos), ***Phys. Rev. Letters***, **56**, 1988-1991, (1986).
- (13) The Energy Balance of Plasmoids in the Solar Atmosphere, (**P.J. Cargill** and G.W. Pneuman), ***Astrophys. J.***, **307**, 820-825, (1986).
- (14) Magnetohydrodynamic Stability of Line-Tied Coronal Arcades. III. Sheared Magnetic Fields, (**P.J. Cargill**, A. Hood and S. Migliuolo), ***Astrophys. J.***, **309**, 402-408, (1986).
- (15) Preflare Activity, (E.R. Priest, **P.J. Cargill**, T.G. Forbes, A.W. Hood and R.S. Steinolfson), in ***Energetic Phenomena on the Sun, NASA CP-2439***, ed. M.R. Kundu and B.E. Woodgate, pp. 1.3-1.16, (1986).
- (16) Flares Energetics, (S.T. Wu, C. de Jager, B.R. Dennis, H.S. Hudson, G.M. Simnett, K.T. Strong, R.D. Bentley, P.L. Bornmann, M.E. Bruner, **P.J. Cargill**, C.J. Crannell,

- J.G. Doyle, C.L. Hyder, R.A. Kopp, J.R. Lemen, S.F. Martin, R. Pallavicini, G. Peres, S. Serio, J. Sylwester and N.J. Veck), in **Energetic Phenomena on the Sun**, NASA CP-2439, ed. M.R. Kundu and B.E. Woodgate, pp. 5.1-5.73 (1986).
- (17) Shock Wave Interactions in a Collisionless Plasma, (P.J. Cargill and C.C. Goodrich), **Phys. Fluids**. **30**, 2504-2517, (1987).
 - (18) Collisionless Shock Formation and the Prompt Acceleration of Solar Flare Ions, (P.J. Cargill, C.C. Goodrich and L. Vlahos), **Astron. and Astrophys.**, 189, 254-262, (1988).
 - (19) A Mechanism for Strong Electron Heating at Shocks in Supernova Remnants, (P.J. Cargill and K. Papadopoulos), **Astrophys. J. Letters**, **329**, L29-L32, (1988).
 - (20) Is the Cometary Bow Shock Really a Shock?, (P.J. Cargill, K. Hizanidis and K. Papadopoulos), in **Cometary and Solar Plasma Physics**, ed. B. Buti, World Scientific Publishing, pp. 285-309, (1988).
 - (21) Resonance Absorption of Alfvén Waves at Comet Solar Wind Interaction Regions, (A.S. Sharma, P.J. Cargill, and K. Papadopoulos), **Geophys. Res. Lett.**, **15**, 740-743, (1988).
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 - (24) The Radio Signatures of Slow Coronal Mass Ejection: Electron Acceleration at Slow Mode Shocks?, (M. Kundu, N. Gopalswamy, S. White, P.J. Cargill, E. Schmahl and E. Hildner), **Astrophys. J.**, **347**, 505-513, (1989).
 - (25) Magnetic and Boundary Effects on Thermal Instabilities in Solar Magnetic Fields: Ballooning Modes in a Slab Geometry, (P.J. Cargill and A.W. Hood), **Solar Phys.**, **124**, 101-127, (1989).
 - (26) Hybrid Simulations of Tangential Discontinuities, (P.J. Cargill) **Geophys. Res. Lett.**, **17**, 1037-1040, (1990).
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- (49) The Deformation of Flux Tubes in the Solar Wind with Applications to the Structure of Magnetic Clouds and CMEs, (**P.J. Cargill**, J. Chen, D. S. Spicer and S. T. Zalesak), in **Proc 3rd SOHO Workshop, ESA SP-373** 291-296, 1994.
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- (52) Global and Local Geospace Modelling in ISTP, (K. Papadopoulos, J. Lyon, C. C. Goodrich, **P.J. Cargill**, A. S. Sharma, R. Kulkarni, C.-L. Chang and A. Mankofsky), **Space Sci. Revs.**, **71**, 671-690, 1995.
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- (69) Mirror-mode structures observed in the dawn-side magnetosheath by Equator-S, (E.A. Lucek, M.W. Dunlop, A. Balogh, **P.J. Cargill**, W. Baumjohann, E. Georgescu, G. Haerendel and K.-H. Fornacon), **Geophys. Res. Lett.**, **26**, 2159-2162, 1999.
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VI. Principal Committees, Review panels, Community activities (2000 – 2009)

- Head, Space and Atmospheric Physics group, Imperial College, Oct 2005 – July 2007
- Chairman, European Space Agency (ESA) Solar System Working Group, and member ESA Space Science Advisory Committee, January 2003 – June 2005.
- Editor, Reviews of Geophysics, Dec 1, 2000 – Dec 31, 2004
- Member, ESA Solar System Working Group, January 2000 – December 2002.
- Member, PPARC Science Committee, June 2001 – Sept 2002.
- Member PPARC Space Science Advisory Committee, Jan. 2000 – June 2005.
- Vice-President, Royal Astronomical Society, May 1999 – May 2001.
- Chairman of PPARC Solar-B steering panel, Nov. 1998 – June 2001.