

James F. Drake

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Academic Degrees:

B.S. Physics: UCLA 1969
M.S. Physics: UCLA 1972
Ph.D. Physics: UCLA 1975

Recent Professional Positions:

1990 - Present, Professor, University of Maryland, College Park, MD,
Department of Physics and Institute for Physical Science and Technology
1999-2002, Interim Director, University of Maryland, College Park, MD
Center for Scientific Computation and Mathematical Modeling
1994-1995, Humboldt Senior Scientist Research Awardee,
Max Planck Institut für Plasmaphysik, Garching, Germany

Selected Professional Activities:

National Academy of Sciences Review Panel on the Fusion Energy Sciences
(Chair, Panel on Scientific Progress and Predictive Capability)
Chair, Division of Plasma Physics of the American Physical Society (1999-2000)
NRC Plasma Science Committee (1999-2001)
President, University Fusion Association (1995-1997)
NRC Committee on Space and Solar Physics (2000-2004)
Fachbeirat, Max Planck Institut für Plasmaphysik, Garching, Germany (2002-present)
Councillor, American Physical Society (2003-present)
Board of the American Physical Society (2005-present)
NRC Solar and Space Physics Survey Committee
(Panel on Theory, Modeling and Data Exploration, 2001-2002)

Honors:

E. Lee Kinsey Award, UCLA, 1969
Chancellor's Teaching Fellowship, UCLA, 1969-1973
Fellow of the American Physical Society, 1986
Humboldt Foundation Research Award, 1994
APS Division of Plasma Physics Distinguished Lecturer, 1999
Associate of the National Academies

Selected Publications:

1. M. E. Mandt, R. E. Denton and J. F. Drake, Transition to Whistler Mediated Magnetic Reconnection, *Geophys. Res. Lett.* **21**, 73 (1994).
2. M. A. Shay, J. F. Drake and B. N. Rogers, and R. E. Denton, The scaling of collisionless magnetic reconnection for large systems, *Geophys. Res. Lett.* **26**, 2163, 1999.
3. J. Birn, J. F. Drake, M. A. Shay, B. N. Rogers, R. E. Denton, M. Hesse, M. Kuznetsova, A. W. Ma, A. Bhattacharjee, A. Otto, and P. L. Pritchett, GEM Magnetic Reconnection Challenge, *J. Geophys. Res.* **106**, 3715, 2001.
4. B. Rogers, R. Denton, J. Drake, M. Shay, Role of dispersive waves in collisionless magnetic reconnection, *Phys. Rev. Lett.* **87**, 195004, 2001.
5. James F. Drake, Magnetic Explosions in Space, *Nature* **410**, 525, 2001 (A Feature News and Views Article solicited by Nature).
6. J. F. Drake, M. Swisdak, C. Cattell, M. A. Shay, B. N. Rogers and A. Zeiler, Formation of electron holes and particle energization during magnetic reconnection, *Science* **299**, 873, 2003.
7. P. Cassak, M. A. Shay and J. F. Drake, A catastrophe model for the onset of fast magnetic reconnection, *Phys. Rev. Lett.* **95**, 235002 (2005).
8. J. F. Drake, H. Che, M. A. Shay, and M. Swisdak, A contracting island model for electron acceleration during magnetic reconnection, *Nature*, in press (2006).