Schedule – Harry Petschek Symposium on Magnetic Reconnection

March 21-23, 2006, University of Maryland University College

Tuesday, March 21

7:30 Breakfast

Morning: Session 1: Reconnection: The beginning

8:30 Introduction and logistics
9:00 A. Kantrowitz – The World Needs Many More Harry Petscheks
9:30 G. Parker - Reconnection- Early concepts
10:00 C. Russell - Reconnection- Early observations and controversies
10:30 Coffee Break
11:00 V. Vasyliunas – Harry Petschek and the universality of magnetic reconnection
11:30 K. Schindler – Electric signatures of magnetic reconnection
12:00 discussion: George Siscoe

12:30 Lunch

Afternoon: Session 2: MHD reconnection and the Petschek model

1:30 J. Dorelli – Magnetic reconnection in large systems: flux pileup and the Hall effect
2:00 P. Cassak – Sweet-Parker and Hall reconnection
2:30 M. Kuznetsova: Microphysics in large scale MHD reconnection
3:00 break and Poster Session 1 viewing
4:00 T. Phan - Heliospheric magnetic reconnection
4:30 H. Baty – On the existence of Petschek reconnection for uniform resistivity
5:00 I. Craig – Analytic models of reconnection in three dimensions
5:30 discussion: Michael Hesse
6:00 adjourn

Wednesday, March 22

7:30 Breakfast

Morning: Session 3: Observations of reconnection – Lab and Space

8:30 H. Hudson – Solar evidence for magnetic reconnection
9:00 L. Fletcher – Particle acceleration during solar reconnection
9:30 M. Oieroset – Particle acceleration during magnetotail reconnection
10:00 Y. Ren – Experimental verification of the Hall effect during pull reconnection in MRX
10:30 Coffee Break
11:00 Y. Ono – Transient and intermittent reconnection in the TS-3/4 merging experiments
11:30 S. Fuselier – Magnetopause reconnection
12:00 T. Nagai – Magnetotail reconnection
12:30 discussion: Masaaki Yamada

1:00 Lunch

Afternoon: Session 4: Kinetic reconnection

2:00 W. Daughton – Influence of open boundary conditions on kinetic simulations of magnetic reconnection
2:30 R. Horiuchi – Roles of plasma instabilities and particle kinetic effects in collisionless driven reconnection
3:00 break and Poster Session 2 viewing
4:00 P.L. Pritchett – Kinetic aspects of guide field reconnection
4:30 M. Scholer – Kinetic structure of the reconnection layer
5:00 I. Shinohara - Quick reconnection triggering via the lower hybrid drift instability
5:30 M. Swisdak – Production of energetic electrons during magnetic reconnection
6:00 discussion: Amitava Bhattacharjee

6:30 Conference dinner

Thursday, March 23

7:30 Breakfast

Morning: Session 5: Reconnection in astrophysical systems

8:30 Jim Stone - Magnetic reconnection in accretion disks
9:00 D. Uzdensky – Magnetic reconnection in astrophysical systems
9:30 H. Isobe - Observations and MHD simulations of fine structure in magnetic reconnection in the solar corona
10:00 Spiro Antiochos – The role of reconnection in coronal structures and dynamics
10:30 Coffee Break
11:00 A. Lazarian – stochastic reconnection
11:30 J. Huba – Hall MHD reconnection physics
12:00 discussion: Ethan Vishniac

12:30 Lunch

Afternoon: Session 6: The future of reconnection research

1:30 F. Mozer - Reconnection physics from on-going missions
2:00 J. Burch - The SMART mission and its science objectives
2:30 S. Tsuneta - Science objectives of the SOLAR-B mission
3:00 break and Poster Session 3 viewing
4:00 E. Vishniac - Magnetic reconnection in astrophysical systems – opportunities and challenges
4:30 M. Hoshino - Future theoretical challenges in magnetic reconnection, plasma heating and acceleration
5:00 G. Siscoe - The final word
5:30 conference adjourns

Poster Session 1

1. N. Bessho and A. Bhattacharjee, Fast magnetic reconnection in an electron-positron plasma.
2. D. Winske and L. Yin, Heating at slow shocks.
3. D. E Wendel, P. H. Reiff, M. L. Goldstein, A. Fazakerley, and E. Lucek, Magnetic structure and particle flow at a Northward IMF reconnection line.
4. A. Vaivads, Y. Khotyaintsev, A. Retino, M. Andre, G. Stenberg, C. J. Owen, S. C. Buchert and H. Nilsson, Microphysics of reconnection in situ.
5. J. Birn and G. Lapenta, The reconnection rate in driven reconnection.
6. G. Lapenta and W. Wan, Evolution of current sheets under external influences and the role of electrostatic fields in self-organziation.
7. D. A. Knoll, L. Chacon and A. N. Simakov, Coalescence of magnetic islands in the low-resistivity, Hall MHD regime.
8. A. Divin, Non-stationary MHD reconnection: numerical simulation of dependence with current sheet parameters.
9. E. Camporeale, G. L. Delzanno, G. Lapenta, and W. Daughton, Linear Vlasov-Maxwell stability using Hermite polynomial expansion.

Poster Session 2

1. J. Egedal, W. Fox, N. Katz and M. Porkolab, Spontaneous reconnection in a laboratory experiment.
2. D. Pontin, 3-D magnetic null points as a site for reconnection.
3. M. A. Shay, J. F. Drake, W. Dorland and G. Stantchev, Equation Free Projective Integration, A multiscale modeling technique: 1D scaling results and application to magnetic reconnection.
4. J. Scudder and W. Daughton, PIC analogues of sharp, perpendicular electric fields observed in magnetopause current layers.
5. Y. Song, Parallel electric fields and 3-D Alfvenic reconnection.
6. K. M. Nakamura, M. Fujimoto, and A. Otto, Magnetic reconnection induced by weak Kelvin-Helmholtz instability and the formation of the low-latitude boundary layer.
7. M. Che, J. F. Drake and M. Swisdak, Buneman turbulence and anomalous resistivity in collisionless magnetic reconnection.
8. M. Yamada, Y. Ren, H. Ji, J. Breslau, S. Gerhardt, R. Kulsrud and A. Kuritsyn, Experimental study of two-fluid effects on magnetic reconnection in a laboratory plasma with variable collisionality.
9. M. Sitnov, Energy transformation in the magnetotail: reconnection onset, thin current sheets and plasma bubbles.

Poster Session 3

1. V. K. Verma, On Solar coronal mass ejection's origins based on observations by LASCO/SOHO.
2. H. Ji, A. Kuritsyn, M. Yamada, and S. Gerhardt, Magnetic reconnection: local plasma dynamics versus global boundary conditions.
3. R. Matsumoto and M. Machida, Global MHD simulations of magnetic reconnection in accretion disks.