

# The US-Japan Workshop on Magnetic Reconnection 2008

**MR2008**  
Okinawa Zampamisaki Royal Hotel  
Okinawa, Japan  
3-6 March, 2008

Program Agenda (near-final : Feb 26)

Okinawa Zampamisaki Royal Hotel, **Convention room [KOCHO]** (3<sup>rd</sup> floor)

## **March 3**

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8:00-8:15 registration

8:15-8:30 opening

### *Monday morning 1*      **SOLAR 1**      **Chair : Hoshino**

8:30-9:00      **Tsuneta** (NAOJ)  
*"Recent results from HINODE"*

9:00-9:20      **Hara** (NAOJ)  
*"Spectroscopic observations of magnetic reconnection in the solar corona"*

9:20-9:50      **Isoe** (U. Tokyo)  
*"Reconnection in the lower atmosphere of the sun"*

9:50-10:20 break

### *Monday morning 2*      **SIM/THEORY 1**      **Chair : Shibata**

10:20-10:50      **Cheng** (NCKU)  
*"Impulsive magnetic reconnection processes in solar flares and CMEs and laboratory plasmas"*

10:50-11:20      **Bhattacharjee** (U. New Hampshire)  
*"Onset of magnetic reconnection and its nonlinear stabilization in laboratory and space plasmas"*

11:20-11:50      **Lazarian** (U. Wisconsin, Madison)  
*"Turbulent reconnection and its simulations"*

11:50-12:20      **Swisdak** (U. Maryland)  
*"Development of a turbulent outflow during electron-positron magnetic reconnection"*

12:20-13:30 lunch

*Monday afternoon 1*      **LABORATORY 1**      **Chair : Ono**

- 13:30-14:00      **Prager** (U. Wisconsin, Madison)  
*"The effect of reconnection on plasma flow"*
- 14:00-14:30      **Bellan** (Caltech)  
*"Simulating astrophysical flows in laboratory experiments"*
- 14:30-15:00      **Brown** (Swarthmore C.)  
*"Outflow jets in the SSX reconnection experiment"*
- 15:00-15:30      break

*Monday afternoon 2*      **ASTRO 1**      **Chair : Bhattacharjee**

- 15:30-16:00      **Terasawa** (Tokyo Inst. Tech.)  
*"Reconnection in neutron star magnetospheres"*
- 16:00-16:30      **Zenitani** (NASA/GSFC)  
*"The role of the Weibel instability at the reconnection jet front in relativistic pair plasma reconnection"*
- 16:30-17:00      **Jaroschek** (U. Tokyo)  
*"Non-thermal particle generation in relativistic current sheets (RCS):  
Interacting RCS ensembles, baryon contamination and radiative loss"*
- 17:00-18:00      poster session
- 18:30-20:00      free & dinner

***March 4***

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*Tuesday morning 1*      **SIM/THEORY 2**      **Chair : Kusano**

- 8:00-8:30      **Daughton** (LANL)  
*"Dynamics of collisionless magnetic reconnection in large-scale electron-positron plasmas"*
- 8:30-9:00      **Horiuchi** (NIFS)  
*"Multi-scale simulation of collisionless driven reconnection in an open system"*
- 9:00-9:20      **Ohtani** (NIFS)  
*"Open boundary condition of particle simulation for collisionless driven reconnection"*
- 9:20-9:50      **Shinohara** (ISAS/JAXA)  
*"Electron acceleration during multiple X-line reconnection"*

9:50-10:20 break

*Tuesday morning 2*      **LABORATORY 2**      **Chair : Phan**

- 10:20-10:50      **Park** (POSTECH)  
*"Validation and verification of the reconnection process of the sawtooth crash in tokamak plasma"*
- 10:50-11:20      **Egedal** (MIT)  
*"Collisionless magnetic reconnection ; a celestial phenomenon in the laboratory"*
- 11:20-11:50      **Frank** (A.M. Prokhorov Institute of General Physics)  
*"Structure and dynamics of both the Hall currents and the main current generating a current sheet"*
- 11:50-12:10      **Inomoto** (Osaka U.)  
*"Current sheet compression experiment under guide magnetic field"*

12:10-13:30 lunch

*Tuesday afternoon 1*      **SPACE 1**      **Chair : Drake**

- 13:30-14:00      **Yamada, M** (PPPL)  
*"Recent experimental study of two-fluid physics on identification of electron diffusion layer in MRX"*
- 14:00-14:30      **Phan** (U. California, Berkeley)  
*"Observational evidence for an elongated (>60 ion skin depths) electron diffusion region during fast magnetic reconnection"*
- 14:30-14:50      **Xiao** (NAOC)  
*"In-situ evidences for the magnetic null and separator-line geometry in 3D magnetic reconnection region"*
- 14:50-15:10      **Pu** (Peking U.)  
*"Magnetic reconnection : New results from Cluster and Double Star measurements"*

15:10-15:40 break

*Tuesday afternoon 2*      **SPACE2**      **Chair : Hesse**

- 15:40-16:00      **Nakamura, T** (ISAS/JAXA)  
*"Structure of magnetospheric flux transfer events:  
Comparing Geotail observations and two-fluid simulations"*
- 16:00-16:20      **Den** (NIFS)  
*"On the condition of magnetic reconnection in the magnetotail"*

16:20-16:50     **Pollock** (SWRI)  
                   *"The Magnetospheric MultiScale mission"*

16:50-17:50     poster session

18:30-21:00     banquet

**March 5**

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*Wednesday morning 1*     **ASTRO 2**                     **Chair : Lazarian**

8:00-8:30         **Matsumoto** (Chiba U.)  
                   *"Global magnetohydrodynamic simulations of state transitions and jet formation in accretion disks"*

8:30-8:50         **Machida** (NAOJ)  
                   *"Quasi-periodic oscillation of an inner torus by the magnetic activities"*

8:50-9:20         **Hirose** (JAMSTEC)  
                   *"Structure of accretion disks with local dissipation of turbulence and radiative transport"*

9:20-9:40         **Nitta** (NAOJ)  
                   *"A new model of magnetic reconnection beyond the Petschek model"*

9:40-10:10        break

*Wednesday morning 2*     **SOLAR 2**                     **Chair : Bellan**

10:10-10:40       **Shibata** (Kyoto U.)  
                   *"Magnetic reconnection in the solar plasma"*

10:40-11:00       **Katsukawa** (NAOJ)  
                   *"Magnetic reconnection in sunspot penumbrae observed with HINODE"*

11:00-11:20       **Cassak** (U. Delaware)  
                   *"From solar and stellar flares to coronal heating: Theory and observations of how magnetic reconnection regulates coronal conditions"*

11:20-11:50       **Kusano** (JAMSTEC)  
                   *"Study on the trigger mechanism of solar flares and coronal mass ejections based on data-driven simulations"*

11:50-12:10       **Haruki** (U. Salford)  
                   *"PIC simulation of magnetic reconnection during stressed X-point collapse"*

12:10-13:30 lunch  
13:30-19:00 excursion tour  
19:00- dinner

***March 6***

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*Thursday morning 1*      **SIM/THEORY 3**      **Chair : Daughton**

8:00-8:30      **Drake** (U. Maryland)  
*"The Hall fields and fast magnetic reconnection"*

8:30-9:00      **Hesse** (NASA/GSFC)  
*"The dissipation mechanism of magnetic reconnection"*

9:00-9:20      **Umeda** (Nagoya U.)  
*"Two-dimensional Vlasov code simulation of magnetic reconnection"*

9:20-9:40      **Usami** (NIFS)  
*"MHD-PIC interlocked simulation model for magnetic reconnection studies"*

9:40-10:10      break

10:10-11:10      **Panel Discussion**      **Chair : Yamada, M**

11:10-11:30      **Future plan**      **Ono, Prager**

11:30-      Closing

**Poster session (March 3, 17:00-18:00 and March 4, 16:50-17:50)**

**Cassak** (U. Delaware)

*"The scaling of asymmetric magnetic reconnection"*

**Hayashi** (U. Tokyo)

*"Characteristics of current sheet in non-steady magnetic reconnection"*

**Hirai** (U. Tokyo)

*"Origin of hard spectra of the energetic ions in the plasma sheet"*

**Li** (Grad U. Adv. Sci.)

*"Numerical studies of electron dynamics in steady collisionless driven reconnection"*

**Moritaka** (Nagoya U.)

*"Roles of ions and electrons in the generation of anomalous resistivity in a thin current sheet"*

**Nakamura, K** (Matsue C. Tech.)

*"2 dimensional MHD simulations of accretion disk evaporation / condensation"*

**Nishizuka** (Kyoto U.)

*"Giant chromospheric jet observed with Hinode and magnetic reconnection model"*

**Ono** (U. Tokyo)

*"Recent progress of TS-4 magnetic reconnection experiment"*

**Sugiyama** (JAMSTEC)

*"Fluid-particle interlocked simulations ~Basic algorithm and plasma applications~"*

**Swisdak** (U. Maryland)

*"Ion pickup and acceleration in magnetic reconnection exhausts"*

**Takahashi** (Chiba U.)

*"Magnetic energy release in relativistically expanding magnetic loops"*

**Yamada, T** (U. Tokyo)

*"Nonlinear mode couplings in linear plasmas"*

**You** (U. Tokyo)

*"Sausage instability precursor to detachment of current-carrying magnetic flux tube"*