

# US-Japan Workshop on MHD Control, Magnetic Islands and Rotation

<http://fusion.gat.com/conferences/mhd08/>

held at the University of Texas, Austin, Texas, USA

AT&T Executive Education and Conference Center

NOVEMBER 23-25, 2008

(Sunday 9 AM to Tuesday 1:30 PM) INVITED 30 minutes + 10 discussion, CONTRIBUTED 20 + 5

## Sunday

9:00-9:50

Registration

*Coffee etc during registration (no morning break)*

9:50-10:00

F. Waelbroeck

Welcome and announcements by local host

K. Yamazaki

Welcome from Japanese coordinator

### Session 1

**Chair: K. Yamazaki**

### **Resistive Wall Mode: Experiments (I) & MHD Control Plans (I)**

10:00-10:40

H. Reimerdes

Interaction of RWM Stability, error fields and plasma rotation

10:40-11:05

J. Sarff

Rotating Wall Machine

11:05-11:45

J. Drake

Advanced RWM control methods on EXTRAP T2R

11:45-12:10

S. Masamune

MHD issues in low-aspect-ratio RFP machine RELAX

12:10-12:50

E. Strait

Newly reconstituted ITPA MHD control & disruptions group

12:50-2:00

*Lunch*

### Session 2

**Chair: M. Okabayashi**

### **High Beta Steady State Operation Limits, Flow, ITER Coil**

2:00-2:40

K. Itami

Avoidance of high beta disruptions in JT-60U

2:40-3:05

M. Furukawa

Effects of shear flow on tearing mode stability

3:05-3:30

E. Schuster

Progress on Current Profile Control on DIII-D

3:30-3:50

*Coffee Break*

3:50-4:30

Y. Narushima

Characteristics of MHD in the high central density plasma in LHD

4:30-4:55

E. Lazzaro

Controlled dynamics of NTM islands in neo-viscous regime

4:55-5:35

M. Schaffer

Control coils for ITER

5:35-6:00

Discussion on Sunday topics

6:15-7:15

Reception

## Monday

8:55-9:00

Announcements

### Session 3

9:00-9:40

9:40-10:20

10:20-10:45

10:45-11:05

11:05-11:30

11:30-11:55

11:55-12:35

**Chair: R. La Haye**

Q. Yu

E. Nardon

A. Garofalo

D. de Lazzari

R. Buttery

S. Sabbagh

### ELM Control, Error Fields, Tearing Modes & MHD Control Plans (II)

Interaction between resonant magnetic perturbations and plasma

Recent work on ELM control by resonant magnetic perturbations

Plasma rotation driven by static non-axisymmetric magnetic fields in DIII-D

*Coffee Break*

On merits of heating and current drive for tearing mode stabilization

Rotation and error field influences on NTMs

Plans for MHD control in the 5 year renewal of NSTX

12:35-2:00

*Group Photograph and Lunch*

### Session 4

2:00-2:40

2:40-3:05

3:05-3:30

3:30-3:50

3:50-4:15

4:15-4:40

4:40-5:05

5:05-5:30

5:30-5:55

5:55-6:35

**Chair: J. Sarff**

R. Paccagnella for L.  
Marrelli

R. Paccagnella

E. Olofsson

L. Zheng

M. Okabayashi

J. Berkery

O. Katsuro-Hopkins

J. Shiraishi

E. Strait

### Resistive Wall Mode: Experiments (II) & MHD Control Plans (III)

Progress in MHD feedback control in RFX-mod

Simulation of RWM

Closed-loop identification of MHD modes in a reversed-field pinch

*Coffee Break*

Non-hybrid kinetic analysis of the RWM in ITER by AEGIS-K code

Issues of RWM stabilization at low rotation in DIII-D and JT60U

RWM stabilization physics with application to NSTX

Computational analysis of advanced control methods applied to RWM Control in tokamaks

A New Matching Method for Resistive Wall Mode Analysis of Rotating Plasmas

Plans for MHD control in the 5 year renewal of DIII-D

6:35-6:50

Discussion on Monday topics

7:00

Workshop dinner

## Tuesday

8:25-8:30

NOTE ½ HOUR EARLIER START

Announcements

### Session 5

Chair: E. Strait

8:30-9:10

B. Nelson

9:10-9:35

Y. In

9:35-10:15

G. Fiksel

10:15-10:30

10:30-10:55

A. Welande

10:55-11:20

B. Hennen

11:20-11:45

F. Volpe

11:45-12:10

D. Maurer

12:10-12:30

K. Yamazaki

12:30-12:50

J. Snipes

12:50-1:20

R. Buttery

1:20-1:30

M. Okabayashi

### Tearing Modes, MHD Control in General, & MHD Control Plans (IV)

Evidence for Flow-Shear Stabilization of MHD Modes in a Z-pinch

Efficacy of current-driven RWM feedback control

MHD, tearing and momentum transport in the MST RFP

*Coffee Break*

Progress on modulated broad ECCD suppression of 2/1 NTMs in DIII-D

Feedback control of ECRH for MHD mode stabilization on TEXTOR

Real-time ray/beam tracing localization of ECRH/ECCD for MHD control in ASDEX Upgrade

Recent HBT-EP Kink Mode Control Results

MHD Stabilization Analysis in Tokamak with Helical Field

Test Blanket Module Effects on Plasma Operations in ITER

Newly created European MHD topical group

Next MHD Control Workshop after Atlanta APS: Theme and location? (Next US-Japan workshop to be in Japan, probably January 2010)

1:30

End

ATTENDING: 42 registered (See posted list on web site for details.)