

Program ~ Innovative Confinement Concepts Workshop 2006  
February 13-16, Austin, Texas  
Location: Renaissance Hotel

**Monday, February 13, 2006**

7:45 Continental Breakfast in Trinity Foyer

8:45 Welcome and Administrative Matters in Trinity Ballroom

***Simply Connected, Spheromak, and Compact ST***

***Chair: Brian Nelson***

9:00 Measurements of plasma jets and collimated flux tubes that are the precursors of spheromak self-organization

Paul Bellan

9:20 Magnetic reconnection in the spheromak: Physics and consequences

Bick Hooper

9:40 Solenoid-free plasma start-up in HIT-II and NSTX using transient CHI

Roger Raman

10:00 *Break*

10:30 Energy transport in high temperature spheromak plasmas

Harry McLean

10:50 Improved stability and confinement in a relaxed extremely high-beta plasma state

Houyang Guo

11:10 Novel spheromak configurations: Dipole trapped and  $m=1$  tilted

Michael Brown

11:30 Panel Discussion

12:00 *Lunch*

1:00 Poster Session #1 in Rio Grande Exhibit Hall

***High Beta and FRC***

***Chair: Glen Wurden***

2:30 Effects of the hot electron interchange instability on plasma confined in a dipolar magnetic field

Eugenio Ortiz

2:50 Equilibrium evolution in the ZaP flow Z-pinch

Uri Shumlak

3:10 Equilibrium and stability of oblate free-boundary FRCs in MRX

Stefan Gerhardt

3:30 *Break*

4:00 The pulsed high density experiment: Concept, design, and initial results

John Slough

4:20 A high plasma pressure field reversed configuration at Los Alamos National Laboratory

Tom Intrator

4:40 Confinement and current drive measurements for steady state FRCs

Alan Hoffman

5:00 Panel Discussion

***University Fusion Association Meeting***

***Chair: Stephen Knowlton***

7:00 DOE Talk

Francis Thio

7:30 ITER-ICC Discussion and Talk

Bick Hooper & John Sarff

8:00 One Pager Discussion

Stephen Knowlton

**Tuesday, February 14, 2006**

8:00 Continental Breakfast in Ballroom A

***Current Drive and RFP***

***Chair: Darren Craig***

9:00 Electron Bernstein wave physics in NSTX and PEGASUS

Gary Taylor

9:20 Spheromak formation observed in HIT-SI

Paul Sieck

9:40 Oscillating field current drive in the RFP

John Sarff

10:00 *Break*

10:30 Fast ion confinement In MST

Ben Hudson

10:50 Feedback stabilization of tearing modes in RFPs with a resistive wall above the ideal wall limit

John Finn

11:10 Active control of resistive wall modes in RFPs

Per Brunzell

11:30 Panel Discussion

12:00 *Lunch*

1:00 Poster Session #2 in Rio Grande Exhibit Hall

***Stellarator, ST, and Other Magnetic***

***Chair: Rob Goldston***

2:30 W7AS beta limits and implications for NCSX and beyond

Mike Zarnstorff

2:50 Compact stellarator experiments

Stephen Knowlton

3:10 Transport improvements in stellarators with quasisymmetry

David Anderson

3:30 *Break*

4:00 Low recycling discharges with full lithium wall coatings in CDX-U

Richard Majeski

4:20 Electron plasma equilibria in the CNT stellarator: First results

Jason Kremer

4:40 Measurements of radial profiles of rotational velocity on MCX and assessment of velocity shear stabilization

Catalin Teodorescu

5:00 Panel Discussion

6:30 *Reception/Banquet in Ballroom B*

### **Wednesday, February 15, 2006**

8:00 Continental Breakfast in Ballroom A

#### ***Plasma Science & Other Confinement***

***Chair: Carl Sovinec***

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|-------|---|---------------|
| 9:00  | Observation of the enhanced helicity injection mode in a rotating plasma annulus                      | Zhehui Wang   |
| 9:20  | Effects of energetic beam ions on stability properties of field reversed configurations               | Elena Belova  |
| 9:40  | Sheared plasma flow generation--a new measure for stellarator optimization                            | Donald Spong  |
| 10:00 | <i>Break</i>  |               |
| 10:30 | Overview of experimental and theoretical studies of the Periodically Oscillating Plasma Sphere (POPS) | Richard Nebel |
| 10:50 | The status of advanced target concepts for ICF and IFE  | John Perkins  |
| 11:10 | Ion beam compression in space and time for HEDP applications  | Peter Seidl   |
| 11:30 | Panel Discussion  |               |
| 12:00 | <i>Lunch</i>  |               |
| 1:00  | Poster Session #3 in Rio Grande Exhibit Hall  |               |

#### ***Skunkworks***

***Chair: Simon Woodruff***

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|------|---|-----------------------|
| 2:30 | Spherical torus with a plasma center column (ST-PCC)  | Scott Hsu             |
| 2:50 | Plasma centrifuge heat engine - a Route to non-thermal p-11B fusion                         | Dan Barnes            |
| 3:10 | Kinetic stabilizer and kinetic tandem   | Dick Post             |
| 3:30 | Rotating mirror as a magneto-inertial fusion target plasma                                  | Andrew Case           |
| 3:50 | <i>Break</i>  |                       |
| 4:20 | Compression, heating, and fusion with colliding plasmoids and a Z-theta driven plasma liner | John Slough           |
| 4:40 | Nuclear emissions during acoustic inertial confinement cavitation                           | Rusi Taleyarkhan      |
| 5:00 | Thinking of different ways to combine fission with fusion                                   | Friedwardt Winterberg |

### **Thursday, February 16, 2006**

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|-------|---|--|
| 8:00  | Continental Breakfast (location TBA)  |  |
| 9:30  | Tour of the Laser Lab and the Helimak, two experiments at the University of Texas |  |
| 12:00 | Workshop Adjourned  |  |