

Innovative Confinement Concepts Workshop
and US-Japan Compact Torus Workshop
June 23-27, 2008
Reno, Nevada
Agenda

Monday, June 23, 2008

6:00 pm Registration Welcome Reception

Eldorado Hotel

Tuesday, June 24, 2008

7:45 *Continental Breakfast Provided*

8:45 Welcome and Administrative Matters

Plasma Science: Plasma Transport and Dynamics

Chair: Michiaki Inomoto

9:00 Studies of helicity-driven MHD relaxation and its control by rotating magnetic field on HIST

Masayoshi Nagata

9:20 Transport of momentum by tearing modes in the MST RFP

Gennady Fiksel

9:40 How does the plasma get into a spheromak?

Paul Bellan

10:00 *Break*

10:30 A Candidate 1MJ Modular Driver Concept for Heavy Ion Fusion Direct Drive

B. Grant Logan

10:50 Alfvénic plasma flow during spheromak preformation stage

Deepak Kumar

11:10 The First Basic Experiment on the Production and Identification of ETG Modes

Amiya Sen

11:30 Panel Discussion

12:00 *Lunch Provided*

1:00 Poster Session #1: P.044 to P.054

Skunkworks

Chair: Simon Woodruff

2:00 Fast Ignition Using Electron-Positron Jets

Scott Wilks

2:20 Plasma Confinement by Rotating Magnetic Field in Toroidal Geometry

Vladimir Svidzinski

2:40 A Hybrid Inductive Scenario for A Nearly Steady-State Reversed Field Pinch

John Sarff

3:00 *Break*

3:30 Got Tritium?

John Slough

3:50 Fast Z-Pinch Compression of Small-Radius, Cylindrical Liner

Charles Hartman

4:10 Experimental results for an acoustic driver for MTF

Michel Laberge

4:30 Panel Discussion

5:00 Poster Session #2: P.055 to P.068

6:00 US-Japan CT Workshop Reception

University of Nevada, Reno
Joe Crowley Student Union

A portion of program fees may be used to pay hosting expenses.

Wednesday, June 25, 2008

8:00 *Continental Breakfast Provided*

High Beta and other: RFP, Stellarators, LDX, Disruption Mitigation, Inductive Spheromak

Chair: Brett Chapman

9:00 Overview of RFX-mod results

Piero Martin

9:20 MHD Properties of Low-Aspect Ratio RFP in RELAX

Sadao Masamune

9:40 Recent Results from the Steady-Inductive Helicity Injected Torus (HIT-SI)

Brian Nelson

10:00 *Break*

10:20 Transport in a Quasisymmetric Plasma: Results from HSX

David Anderson

10:40 Studies of Non-Neutral Plasmas in the CNT Stellarator

Thomas Pedersen

11:00 The Turbulent Structure of a Plasma Confined by a Magnetic Dipole

Brian Grierson

11:20 Measurements of Improved Confinement During Magnetic Levitation of a Superconducting Dipole

Alexander Boxer

11:40 Panel Discussion

12:00 *Lunch Provided*

Simply Connected: Spheromak and FRC

Chair: Glen Wurden

1:30 Final Results from the SSPX Spheromak Program

Harry Mclean

1:50 Visualizing Magnetic Reconnection in the SSPX Spheromak

Bick Hooper

2:10 Reactor Prospect of Spheromak Concept by Electrostatic Helicity Injection

Xianzhu Tang

2:30 *Break*

3:00 Improved Compression of Merged Field Reversed Configuration Plasmas in the IPA Experiment

George Votroubek

3:20 Stable High-Flux Oblate FRCs in SSX

Tim Gray

3:40 Development of Merged Compact Toroids for Use As An MTF Plasma

Stephen Howard

4:00 Panel Discussion

4:30 Poster Session #3: P.069 to P.081

Evening Session (Eldorado Hotel)

5:30 Reception

Eldorado Hotel

6:30 Banquet

Eldorado Hotel

Fusion Updates

Chair: Sam Barish

8:00 Update from DOE

Stephen Eckstrand

8:30 FESAC panel chair on MFE Alternate concepts

David Hill

Thursday, June 26, 2008

8:00 *Continental Breakfast Provided*

Simply Connected and High Beta: FRC, Z-Pinch

Chair: Loren Steinhauer

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| 9:00 | Achievement of a New High-Confinement, Collisionless FRC State in TCS-Upgrade | Houyang Guo |
| 9:20 | The Princeton FRC Research Program | Samuel Cohen |
| 9:40 | High-beta steady-state FRC plasmas sustained by rotating magnetic fields with spatial high-harmonic components | Michiaki Inomoto |
| 10:00 | <i>Break</i> | |
| 10:30 | Simulation Studies of Field-Reversed Configurations with Rotating Magnetic Field Current Drive | Elena Belova |
| 10:50 | Stabilization in the ZaP Flow Z-Pinch | Uri Shumlak |
| 11:10 | Linear and nonlinear development of $m=0$ instability in z-pinch equilibria with sheared axial flows | Ioana Parashiv |
| 11:30 | Panel Discussion | |
| 12:00 | <i>Lunch Provided</i> | |
| 1:00 | Poster Session #4: P.082 to P.094 | |

Non-Inductive Current Drive and Simply Connected Open Systems

Chair: Michael Brown

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| 2:00 | Solenoid-free Plasma Start-up in NSTX using Transient CHI | Roger Raman |
| 2:20 | Closed flux sustainment during Coaxial Helicity Injection discharges and the requirements for flux amplification in the Helicity Injected Torus-II | William Hamp |
| 2:40 | Non-inductive plasma startup and current profile modification in Pegasus spherical torus discharges | Aaron Redd |
| 3:00 | <i>Break</i> | |
| 3:30 | Maryland Centrifugal Experiment: Progress and Plans | Richard Ellis |
| 3:50 | Experimental study on the velocity limits of magnetized rotating plasmas | Catalin Teodorescu |
| 4:10 | Non-paraxial stabilizers for axisymmetric mirrors | Dmitri Ryutov |
| 4:30 | Panel Discussion | |
| 5:00 | Poster Session #5: P.095 to P.101 | |

Friday, June 27, 2008

8:00 *Continental Breakfast Provided*

Inertial Fusion Energy and Magnetized Target Fusion

Chair: Paul Parks

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| 9:00 | FRCHX Magnetized Target Fusion and FRC Translation Experiments | Tom Intrator |
| 9:20 | Plasma formation and evolution from an aluminum surface driven by a megagauss field, as in magneto-inertial fusion | Bruno Bauer |
| 9:40 | Shock Ignition: A New Approach to High Gain Targets for the National Ignition Facility and Inertial Fusion Energy | L. John Perkins |
| 10:00 | <i>Break</i> | |
| 10:30 | C60-Fullerene Hyper-Velocity High-Density Plasma Jets for MIF and Disruption Mitigation | Ioan N. Bogatu |
| 10:50 | Novel Cluster High Performance Target | George Miley |
| 11:10 | Magnetized Hot-Spot Implosions on OMEGA | James Knauer |
| 11:30 | Panel Discussion | |
| 12:00 | <i>Lunch Provided</i> | |
| 1:30 | Tour of Nevada Terawatt Facility | Bruno Bauer |
| 3:30 | Excursion into Sierra Nevada mountains | Bruno Bauer |