

# IPELS 2003 Preliminary Program

	AM	Lunch	PM	Evening
<b>SUN, 29 June</b>	<b>Registration</b>		Session 1 2:00-6:05	Reception
<b>MON, 30 June</b>	Session 2 8:30-12:35	Lunch for Attendees	Session 3 2:00-6:00  Poster	<b>Free Time</b>
<b>TUE, 1 July</b>	Session 4 8:30-12:35	<b>Free Time</b>		
<b>WED, 2 July</b>	Session 5 8:30-12:35	Lunch for Attendees	Session 6 2:00-6:00  Poster	Banquet
<b>THU, 3 July</b>	Session 7 8:30-12:30			

## SESSION 1 – Sunday, June 29

02:00-02:10	<b>C. Kletzing</b> Welcome
02:10-02:30	<b>G. Haerendel (I)</b> IPELS Overview/History
02:30-02:45	<b>B. Rogers (I)</b> Signatures of Collisionless Magnetic Reconnection
02:45-03:00	
03:00-03:15	<b>R. Horiuchi (I)</b> Dynamical Evolution of Current Sheets and Three-Dimensional Collisionless Reconnection in an Open System
03:15-03:30	
03:30-03:50	<b>T. Intrator (C)</b> Reconnection layer dynamics in the Reconnection Scaling Experiment at LANL
03:50-04:00	<b>Break</b>
04:00-04:15	
04:15-04:30	<b>F. Mozer (I)</b> Polar Satellite Observations Of The Ion And Electron Diffusion Regions At TheSubsolar Magnetopause
04:30-04:45	
04:45-05:00	<b>J. Scudder (I)</b> A Portrait of the Electron Diffusion Region
05:00-05:15	
05:15-05:30	<b>A. Vaivads (I)</b> The small scale structure of the magnetopause: current layers and waves
05:30-05:45	
05:45-06:05	<b>M. Brown (C)</b> Three dimensional plasma merging experiments at SSX

## SESSION 2 – Monday, June 30

08:30-08:45	<b>J. Egedal (I)</b> Laboratory Observation of Fast Collisionless Magnetic Reconnection
08:45-09:00	
09:00-09:20	<b>A. Bhattacharjee (C)</b> Current and Vortex Singularities: Drivers of Impulsive Reconnection
09:20-09:35	<b>R. Fitzpatrick (I)</b> Wave Driven Magnetic Reconnection In The Taylor Problem
09:35-09:50	
09:50-10:05	<b>H. Ji (I)</b> Magnetic Fluctuations and Resistivity Enhancement in Magnetic Reconnection Experiment (MRX)
10:05-10:20	
10:20-10:30	<b>Break</b>
10:30-10:45	
10:45-11:05	<b>T. Hayashi (C)</b> Nonlinear simulations of relaxation phenomena in toroidal plasmas and two-fluid plasmas with plasma flow
11:05-11:20	<b>Y. Ono (I)</b> Ion Heating Characteristics of Magnetic Reconnection in TS-3 and 4 Merging Experiments
11:20-11:35	
11:35-11:55	<b>R. Stenzel (C)</b> Magnetic Field Annihilation Experiments
11:55-12:15	<b>S. Prager (C)</b> The Hall Dynamo in a Laboratory Plasma
12:15-12:35	<b>A. Ram (C)</b> Nonlinear Energization of Ionospheric Ions by Electrostatic Fields

### SESSION 3 – Monday, June 29

02:00-02:15	<b>F. Skiff (I)</b>
02:15-02:30	Landau Damping in Weakly Collisional Plasmas
02:30-02:45	<b>N. Claire (I)</b>
02:45-03:00	Ion Soliton Observation With Laser Induced Fluorescence
03:00-03:15	<b>D. Newman (I)</b>
03:15-03:30	Simulation of Current-Driven Double Layers And Electron Holes: Relevance to Laboratory and Space Plasmas
03:30-03:45	Break & Posters
03:45-04:00	
04:00-04:15	
04:15-04:30	
04:30-04:45	
04:45-05:00	
05:00-05:15	
05:15-05:30	Particle simulations of electrostatic solitary waves in space plasmas
05:30-05:45	<b>C. Cattell (I)</b>
05:45-06:00	The role of electron holes in reconnection: Polar and Cluster Observations in the Magnetotail and Magnetopause

## SESSION 4 – Tuesday, July 1

08:30-08:45	<b>J. Maggs (I)</b> Field Line Resonances in a Cylindrical Plasma Column
08:45-09:00	
09:00-09:15	<b>A. Streltsov (I)</b> Dispersive field line resonances in space and laboratory plasmas
09:15-09:30	
09:30-09:45	<b>C. S. Ng (I)</b> Four-Field Model for Field-Line Resonances in the Magnetosphere
09:45-10:00	
10:00-10:20	<b>C. Kletzing (C)</b> Dispersive Alfvén waves in the laboratory and space
10:20-10:30	<b>Break</b>
10:30-10:45	
10:45-11:05	<b>G. Morales (C)</b> Kinetic Simulation of Alfvénic Phenomena of Small Transverse Scale
11:05-11:20	<b>W. Gekelman (I)</b> Experiments And Observations On Intense Alfvén Waves In The Laboratory
11:20-11:35	
11:35-11:55	<b>D. Knudsen (C)</b> Lower-Hybrid Cavity Density Depletions as a Result of Ion Heating Localized on the Gyroradius Scale
11:55-12:15	<b>M. Koepke (C)</b> Open questions regarding the role of sheared flow in auroral acceleration and transport processes
12:15-12:35	<b>E. Scime (C)</b> Effects of Temperature Anisotropy and Shear Flow on the Ion Cyclotron Instability of a Magnetized Plasma

## SESSION 5 – Wednesday, July 2

08:30-08:45	<b>M. Porkolab (I)</b> Mode Conversion Processes at the Ion-Ion Hybrid Layer in Multi-Ion Species Plasmas in Sheared Magnetic Fields
08:45-09:00	
09:00-09:20	<b>K. Lynch (C)</b> Measuring thermal electron distributions from a nightside auroral sounding rocket
09:20-09:40	<b>R. Pfaff (C)</b> In-Situ Observations Of Dc And Wave Electric Fields, Currents, And Plasma Density Associated With A Large Diamagnetic Cavity In A High Speed, Aluminum Ion Beam Released In The Earth's Ionosphere
09:40-10:00	<b>L. Andersson (C)</b> The Effect of Double Layers on Ion Outflow
10:00-10:20	<b>W. Amatucci (C)</b> Laboratory Investigation of Boundary Layer Processes
10:20-10:30	<b>Break</b>
10:30-10:45	
10:45-11:00	<b>R. Drake (I)</b> Connecting laboratory experiments with astrophysical phenomena
11:00-11:15	
11:15-11:30	<b>D. Ryutov (I)</b> Scaled laboratory experiments may help in solving the mysteries of the Eagle Nebula
11:30-11:45	
11:45-12:00	<b>E. Quataert (I)</b> Turbulence in Accretion Disks around Black Holes
12:00-12:15	
12:15-12:35	<b>R. Kulsrud (C)</b> Generation of Magnetic Fields in Gravitationally Forming Structures in the Early Universe

## SESSION 6– Wednesday, July 2

02:00-02:15	<b>W. Dorlund (I)</b> Wave-Particle Interactions in the Tail of an Alfvén Cascade
02:15-02:30	
02:30-02:45	<b>P. Martin (I)</b> Magnetic self-organization processes in the RFP
02:45-03:00	
03:00-03:15	<b>D. Craig (I)</b> Turbulence and its effects in Reversed Field Pinch plasmas
03:15-03:30	
03:30-03:45	<b>Break &amp; Posters</b>
03:45-04:00	
04:00-04:15	
04:15-04:30	
04:30-04:45	
04:45-05:00	
05:00-05:15	
05:15-05:30	
05:30-05:45	<b>P. Terry (I)</b> On the Comparison of Magnetofluid Turbulence in Laboratory and Astrophysical Plasmas
05:45-06:00	

## SESSION 7 – Thursday, July 3

08:30-08:45	<b>W. Matthaeus (I)</b>
08:45-09:00	Turbulence, reconnection and particle acceleration
09:00-09:20	<b>S. Bounds (C)</b> Investigations of Plasma Turbulence Using the Cluster Electron Drift Instrument
09:20-9:40	<b>K. Shibata (C)</b> What is the role of plasmoid ejections in fast reconnection and solar flares?
9:40-10:00	<b>G. Vekstein (C)</b> Probing Coronal Heating With Variability In Solar And Stellar X-Ray Emission
10:00-10:15	<b>Break</b>
10:15-10:25	
10:25-10:50	<b>Mark Linton</b>
10:50-11:05	The Role of Flux Tube Reconnection in Solar Flare Dynamics
11:05-11:25	<b>P. Schuck (C)</b> Chromospheric Dynamics: An Examination of Spatio-temporal Phenomena in Ha-Data
11:25-11:45	<b>K. Kusano (C)</b> Study on Magnetic Helicity in the Solar Corona
11:45-12:05	<b>M. Yamada (C)</b> What have we learned from cross fertilization inside and outside of IPELS?
12:05-12:30	<b>Discussion of Future Directions for IPELS</b>

## POSTER PRESENTATIONS

### Costel Biloiu

Evolution of Ion Temperature Anisotropy in an Expanding Magnetoplasma

### Joe Borovsky

Plasma-Physics Issues with the Operation of Beams from Spacecraft in the Magnetosphere

### Stanislav Boldyrev

Supersonic MHD Turbulence and Structure of Interstellar Molecular Clouds

### Brian Brugman

Study of nonlinear interactions between shear Alfvén waves in LAPD

### Johnathan K. Burchill

Observations of Alfvén waves and ion polarization drift in the topside ionosphere

### Troy A. Carter

Study of nonlinear interactions between shear Alfvén waves in LAPD

### Li-Jen Chen

Width-amplitude relation of three-dimensional Bernstein-Greene-Kruskal solitary waves

### James H. Clemmons

Exploration of the Association of Alfvén Waves with Field-Aligned Auroral Electrons

### Ahmed Diallo

Cross-power measurements of Ion Phase-Space Density Fluctuations in Collisionless Plasma

### Ivo Furno

Experimental investigation of the stability of a current carrying plasma column

### Walter Gekelman

The Interaction of Lower Hybrid Waves with a Density Cavity

### Amanda A. S. Gulbis

Dust Transport Above a Surface with a Sheath

### Jan-Ove Hall

Scattering of magnetosonic waves of small scale density irregularities

### Scott Hsu

A Flowing Plasma Laboratory Experiment for Studying the Magnetorotational Instability

### Jon David Jackson

Transverse shear and current driven instabilities in the ALEXIS device

### Amy M. Keesee

Minor Ion Heating in Magnetospherically Relevant Plasmas

### Giovanni Lapenta

MHD Physics around Black Holes: Jets from Active Galactic Nuclei and Intergalactic Bubbles

### David Leneman

Reflection of Alfvén Waves from boundaries with Different Conductivities

### V. S. Lukin

Hall MHD modeling of two-dimensional reconnection: application to the Magnetic Reconnection Experiment

### Eric J. Lund

Towards a Self-Consistent Picture of Parallel Electric Fields in the Return Current Region Aurora

### J. E. Maggs

Laboratory Realization Of An Alfvén Wave Maser

### Yukihiko Murata

Investigation of ion heating and acceleration derived from magnetic reconnection

### Yang Ren

Study of the Magnetic Fluctuations in the MRX

### Paolo Ricci

CELESTE3D: a tool to simulate collisionless reconnection in space and laboratory plasmas

### Scott Robertson

Probing Ionospheric Aerosol Particles by Sounding Rocket

### Ilan Roth

Violation of Adiabatic Invariants and Electron Energization

### M. P. Ryutova

Laboratory Simulation of Solar Coronal Plasmoids

### Yoshifumi Saitou

Formation of Ion-Acoustic Shock Waves with Landau Damping

### Peter W. Schuck

Lower Hybrid Solitary Structures

### Prateek Sharma

Collisional effects on kinetic MRI

### Robert Sheldon

Cusp Diamagnetic Cavities and Space Charge Plasmas

### Edward Thomas, Jr.

Applications of microparticle cloud interactions in dc glow discharge dusty plasmas

## **J. Manuel Urrutia**

Breaking the Frozen-in Condition in EMHD  
Plasmas Without Null Points

## **Stephen Vincena**

Excitation of VLF hiss by a laser-produced  
plasma-- a laboratory investigation

## **Zhehui (Jeff) Wang**

Astrophysical Dynamo Experiments in  
Flowing Magnetized Plasmas (FMP)

## **John R. Wygant**

Cluster spacecraft observations of the electric  
field structure of the reconnection region at  
thin current layers in the plasma sheet: Its  
relation to ion acceleration and Poynting flux  
production