

**Preliminary Schedule**  
**Chapman Conference on Magnetospheric ULF Waves**  
**March 21-25, 2005**  
**San Diego, California**

**Monday, March 21, 2005**

Time	Speaker	Invited/ contributed	Title
8:00-8:45			Registration and put up posters
8:45-9:00	Conveners		Welcome
9:00-9:45	Kivelson, M. G.	invited	ULF Waves from the Ionosphere to the Outer Planets
9:45-9:55			Discussion

**Chair: Colin Waters (morning)**

**External Sources of ULF Waves**

9:55-10:20	Walker, A. D. M.	invited	Excitation of Field line Resonances by Sources Outside the Magnetosphere
10:20-10:50			<b>Break and Poster Viewing</b>
10:50-11:15	Fujita, S.	invited	A Numerical Simulation of a Geomagnetic Sudden Commencement
11:15-11:35	Sibeck, D. G.	contributed	Periodic Traveling Convection Vortices (TCVs) and Solar Wind Conditions
11:35-11:55	Sinha, A. K.	contributed	Field Line Oscillations as Excited by Surface Waves at the Magnetopause Boundary
11:55-1:30			<b>Lunch</b>

**Chairs: Dong-Hun Lee, Karl-Heinz Glassmeier (afternoon)**

1:30-1:50	Raeder, J.	contributed	ULF Wave Excitation by the Solar Wind and the Interplanetary Magnetic Field
1:50-2:10	Vassiliadis, D.	contributed	The Response of the ULF Wave Power to Solar Wind and Internal Magnetospheric Drivers
2:10-2:30	Le, G.	contributed	Coordinated Polar Spacecraft, Geosynchronous Spacecraft, and Ground-based Observations of Magnetopause Oscillations and Pc5 Waves in the Magnetosphere
2:30-2:50	Rae, I. J.	contributed	Multi-point Characterization of ULF Wave Energy Transport in the Magnetosphere
2:50-3:20			<b>Break and Poster Viewing</b>

**Magnetospheric Eigenmodes**

3:20-3:45	Wright, A. N.	invited	The Physics of MHD Waves in Magnetospheric Cavities and Waveguides
3:45-4:10	Lee, D.-H.	invited	Investigations of Magnetospheric Compressional Modes: Virtual Resonances vs. Cavity/Waveguide Modes
4:10-4:35	Takahashi, K.	invited	Observation of Pi2 Eigenmodes
4:35-4:55	Schaefer, S.	contributed	Searching for Field Line Resonances: Case Studies From CLUSTER

4:55-6:00			<b>Poster Viewing</b>
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6-7:30 pm **Ice Breaker Reception**

## **Tuesday, March 22, 2005**

**Chairs: Slava Pilipenko, Jay Johnson (morning)**

### **High-latitude ULF Waves**

8:10-8:35	Engebretson, M. J.	invited	High Latitude ULF Waves: Expectations, Disappointments, and Surprises
8:35-9:00	Pilipenko, V.	invited	ULF Waves at Very High Latitudes
9:00-9:20	Lin, N.	contributed	ULF/VLF Wave Signatures as Indicators of Various Polar Cusp Regions
9:20-9:45	Johnson, J. R.	invited	Plasma Heating and Transport at the Magnetopause due to Kinetic Alfvén Waves
9:45-10:10			<b>Break and Poster Viewing</b>

### **Kinetic and Nonlinear Effects**

10:10-10:30	Song, Y.	contributed	Macroparticle Aspect of ULF Waves
10:30-10:55	Volwerk, M.	invited	Turbulence in the Earth's Magnetotail Observed by Cluster
10:55-11:20	Matthaeus, W.	invited	Model for Transport and Dissipation of MHD Turbulence and the Distribution of Turbulence in the Heliosphere
11:20-11:40	Omidi, N.	contributed	Origin of 30 Second ULF Waves in the Foreshock
11:40-12:05	Ferriere, K. M.	invited	Waves and Instabilities in a Rotating Environment
12:05-1:30			<b>Lunch</b>

**Chairs: Ian Mann, Akimasa Yoshikawa (afternoon)**

### **Nightside and Substorm-Related Processes**

1:30-1:50	Samson, J. C.	contributed	ULF Field Line Resonances and Explosive, Nonlinear, Magnetohydrodynamic Instabilities in the Earth's Magnetotail
1:50-2:15	Rankin, R.	invited	Magnetospheric Field Line Resonances: Specific Observations and Underlying Physical Properties
2:15-2:40	Keiling, A.	invited	Alfvénic ULF Waves in the Magnetotail and their Role in the Dynamics of the Magnetosphere
2:40-3:00	Lyons, L. R.	contributed	Large-Scale Nightside Magnetospheric Oscillations: An Important Contributor to Dynamics of the Magnetosphere-Ionosphere System?
3:00-3:35			<b>Break and Poster Viewing</b>
3:35-4:00	Kim, K. H.	invited	Low and High Latitude Pi2 Pulsations Associated With Bursty Bulk Flows in the Magnetotail: A Case Study
4:00-4:20	Hsu, T.-S.	contributed	A Study of the Substorm Pi 2 Signature with Multi-Satellite Tail Observations
4:20-4:40	Takada, T.	contributed	Alfvén Waves in the Near-PSBL Lobe: Cluster Observations
4:40-5:00	Lessard, M. R.	contributed	Case Studies of Pi1B Pulsations Observed by Multiple Stations - Implications for Wave Propagation at Substorm Onset
5:00-6:00			<b>Poster Viewing</b>

## Wednesday, March 23, 2005

Session Chairs: Ian Mann, Slava Pilipenko (morning)

### Interaction with Radiation Belt and Ring Current

8:10-8:35	Green, J. C.	invited	Do ULF Waves Contribute to the Acceleration of Relativistic Electrons in the Earth's Radiation Belts
8:35-9:00	Thorne, R. M.	invited	Effects of both ULF and EMIC Waves on Relativistic Electron Dynamics During Storms
9:00-9:25	Mann, I. R.	invited	Explaining the Penetration of Intense Pc5 ULF Wave Power to low-L During the Halloween Storms: Implications for the Acceleration of MeV Electrons in the Outer Radiation Belt
9:25-9:50	Elkington, S. R.	invited	Radial Diffusion in the Outer Zone Radiation Belts Resulting From Interaction with Externally-Driven ULF Waves
9:50-10:10			<b>Break and Poster Viewing</b>
10:10-10:30	Perry, K. L.	contributed	Incorporating Spectral Characteristics of Pc5 Waves into Three Dimensional Radiation Belt Modeling
10:30-10:55	Chen, L.	invited	On Global Eigenmodes of Internally Excited Magnetospheric ULF Waves
10:55-11:20	Klimushkin, D. Yu.	invited	Interaction of High-m ULF Waves With Energetic Particles in the Magnetosphere
11:20-11:40	Hu, S.	contributed	Kinetic Excitations of Global Magnetospheric Alfvén - Ballooning Eigenmodes
11:40-12:00	Crabtree, C.	contributed	Magnetospheric Drift Compressional Modes
12:00-1:30			<b>Lunch</b>

Chairs: Karl-Heinz Glassmeier, Fred Menk (afternoon)

1:30-1:50	Ukhorskiy, A. Y.	contributed	The Role of ULF Waves in Transport of Radiation Belt Electrons
1:50-2:10	Eriksson, P. T. I.	contributed	Poloidal ULF Oscillations in the Dayside Magnetosphere: A Cluster Study
2:10-2:30	Wilson, M. E.	contributed	A Statistical Investigation of Magnetospheric Particle Populations which may drive ULF waves
2:30-3:00			<b>Break and Poster Viewing</b>

### Ion Cyclotron Waves and Planetary ULF Waves

3:00-3:25	Fraser, B. J.	invited	Electromagnetic Ion Cyclotron Waves, Plasma Density Structures and Ring Current Decay
3:25-3:50	Russell, C. T.	invited	Ion Cyclotron Waves in Planetary Magnetospheres
3:50-4:15	Glassmeier, K.-H.	invited	ULF Pulsations in the Hermean Magnetosphere
4:15-4:35	Kim, E.-H.	contributed	Heavy Ion Effects on ULF Waves in the Magnetosphere
4:35-4:55	Espley, J. R.	contributed	Low Frequency Plasma Oscillations at Mars
4:55-6:00			<b>Poster Viewing</b>
7:00			<b>Banquet Dinner</b>

## Thursday, March 24, 2005

Chairs: Akimasa Yoshikawa, Jay Johnson (morning)

### Interaction with the Ionosphere and Auroras

8:10-8:35	Strangeway, R. J.	invited	Wave Propagation Through the Collisional Ionosphere
8:35-9:00	Lysak, R. L.	invited	Numerical Modeling of Magnetosphere-Ionosphere Coupling in Dipole Geometry
9:00-9:25	Yoshikawa, A.	invited	New Algorithm of Magnetosphere-Ionosphere Coupling for Global and Dynamic Closure of Field-Aligned Current to Ionospheric Current
9:25-9:50	Kikuchi, T.	invited	Instantaneous Development of Polar-Equatorial Ionospheric Currents During Geomagnetic Pulsations
9:50-10:05			<b>Break and Poster Viewing</b>
10:05-10:30	Chaston, C. C.	invited	Electron Acceleration by Parallel Electric Fields in Alfvén Waves Above the Auroral Oval
10:30-10:50	McIlwain, C. E.	contributed	Pulsating Magnetospheric Field-Aligned Electrons
10:50-11:10	Streltsov, A. V.	contributed	On Occurrences of Divergent Electric Fields in Downward Current Channels
11:10-11:30	Watt, C. E. J.	contributed	Electron acceleration by Inertial Alfvén Waves
11:30-11:50	Damiano, P. A.	contributed	Electron Response to Standing Shear Alfvén Waves Along Dipolar Magnetic Field Lines
11:50-12:10	Sato, N.	contributed	Empirical Turn-Off Model to Explain Pulsating Aurora
12:10-1:30			<b>Lunch</b>

Chairs: Tim Yeoman, Dong-Hun Lee (afternoon)

### Ionospheric and Ground Observations

1:30-1:55	Fenrich, F. R.	invited	SuperDARN Observations of ULF Waves
1:55-2:20	Ponomarenko, P. V.	invited	Studies of ULF Wave Propagation in the Magnetosphere and Ionosphere Using the SuperDARN TIGER Radar
2:20-2:45	Yeoman, T. K.	invited	The Investigation of ULF Waves Using HF Radar Data
2:45-3:05	Scofield, H. C.	contributed	An Investigation of a Large Scale ULF Wave in the Dawn Sector using SuperDARN and FAST Data
3:05-3:35			<b>Break and Poster Viewing</b>
3:35-4:00	Yumoto, K.	invited	Characteristics of Low-Latitude Magnetic Pulsations Observed at the CPMN Stations: A Review
4:00-4:20	Ables, S. T.	contributed	Deconvolving ULF Wave Field Line Resonance and Propagation Signatures in High Latitude Magnetometer Data
4:20-4:40	Vallée, M. A.	contributed	Impact of Magnetospheric Ultra-Low-Frequency Waves on Aeromagnetic Exploration Surveys
4:40-5:00	Kim, H.	contributed	Narrow-band Extremely Low Frequency (ELF) Wave Phenomena Observed at South Pole Station
5:00-6:00			<b>Poster Viewing</b>

## Friday, March 25, 2005

Chairs: Colin Waters, Tim Yeoman

### Magnetoseismology

<b>8:00-8:10</b>	Conveners		<b>Announcements</b>
8:10-8:35	Denton, R. E.	invited	Mass Density Estimates From Toroidal Waves Observed in Space
8:35-9:00	Vellante, M.	invited	Geomagnetic Field Line Resonance at Low Latitudes and its Relation to Plasmaspheric Ion Density
9:00-9:20	Menk, F. W.	contributed	Plasmaspheric Electron and Mass Density During Magnetic Storms: a Case Study
9:20-9:45	Chi, P. J.	invited	Issues and Recent Advances in Travel-Time Magnetoseismology
9:45-10:00			<b>Break</b>
10:00-10:20	Waters, C. L.	contributed	The Effects of the Magnetic Field and Wave Polarization in Determining Plasma Mass Densities Using ULF Waves
10:20-10:40	Kawano, H.	contributed	Improvement of the Hodograph Methods (to Estimate the Field-Line Eigenfrequency From Ground Magnetometer Data)
10:40-11:00	Boudouridis, A.	contributed	Conjugate Observations of Field-Line Resonances (FLR) in the Inner Magnetosphere from the MEASURE and SAMBA Magnetometer Chains
11:00-11:20	Dent, Z. C.	contributed	ULF Wave Remote Sensing Storm-Time Plasma Dynamics
<b>11:20-12:20</b>	All		<b>Open Panel Discussion</b>
<b>12:20</b>			Meeting Adjourned

## **Poster Session I, Monday-Tuesday, March 21-22, 2005**

Author	Invited/ contributed	Title
Waters, C. L.	Contributed	A Numerical Model for the Propagation of ULF Waves Through an Ionosphere with an Oblique Magnetic Field
Chi, P. J.	Contributed	Comparison of Time-Frequency/Time-Scale Methods in Characterizing Magnetospheric ULF Waves
Coult, N. A.	contributed	Suppression of Resonant Field Line Oscillations by a Turbulent Background
Engebretson, M. J.	contributed	Identification of Substorm Onsets Using Pi1 Pulsations Observed at High Latitude Arrays of Search Coil Magnetometers
Fraser, B. J.	contributed	ULF Waves in the Magnetosphere, Ionosphere and on the Ground
Greene, H. L.	contributed	Analysis of Compressional Pc 5 Magnetic Field Oscillations and Associated Energetic Ion Modulations Occurring on December 20, 2002 in the Dusk Sector Outer Magnetosphere
Kohta, H.	contributed	Wave Characteristics of Pi2 Pulsations Observed at the CPMN Stations-Results from the Independent Component Analysis
Le, G.	contributed	Electromagnetic Ion Cyclotron Waves in the High-altitude Cusp: Polar Observations
Lee, E.-A.	contributed	Global Pc5 ULF Pulsations Observed at Unusually low-L during the Great Magnetic Storm of March 24, 1991
Lessard, M. R.	contributed	The Origin of ULF waves in the Solar Wind and Their Coupling to the Magnetosphere
Mori, T.	contributed	An Analysis About ULF Waves Observed by GEOTAIL Satellite in the Nightside Magnetosphere
Nakamizo, A.	contributed	Energy Transports of Magnetotail Pi2s in the Near-Earth Plasma Sheet
Nenovski, P.	contributed	The Magnetospheric Resonances: Do We Need a Surface Wave Approach?
Nosé, M.	contributed	Longitudinal Structure of Pi2 Pulsations Inferred From Multisatellite Observations
Obana, Y.	contributed	Relationship Between Toroidal and Poloidal Pc 3-5 Pulsations Observed at the Coordinated CPMN Stations
Obana, Y.	contributed	Global Pc 5 Pulsations During a Super Storm in Late October 2003
Qu, H.	contributed	Gyrokinetic Theory of Mirror Instability
Uozumi, T.	contributed	Pi 2 Source Region in the Magnetosphere Deduced from CPMN Data
Vellante, M.	contributed	Ground/Satellite Signatures of Field Line Resonance: A Test of Theoretical Predictions
Volwerk, M.	contributed	A study of ULF Waves in the Earth's Magnetotail Using Cluster Double Star Conjunctions

## **Poster Session II, Wednesday-Thursday, March 23-24, 2005**

Baddeley, L. J.	contributed	A Global Scale ULF Wave Observed Using the SuperDARN HF Radars and 4 Ground Magnetometer Chains
Berube, D.	contributed	Field Line Resonance Frequencies of the Tsyganenko '01 Magnetic Field Model
Cartwright, M. L.	contributed	POLAR Observations of ULF Waves in the Magnetosphere
Chi, P. J.	contributed	Ground-based Observations for Normal-Mode Magnetoseismic Research
Chi, P. J.	contributed	Statistical Characteristics of the Magnetospheric ULF Spectrum
Degeling, A. W.	contributed	Modelling the Effect of Excited ULF Field Line Resonances on Relativistic Electron Populations near Geosynchronous Orbit
De Lauretis, M.	contributed	First Results of ULF Geomagnetic Field Measurements at Dome C, in Antarctica: A Comparison with Simultaneous Observations at Terra Nova Bay
Engebretson, M. J.	contributed	Dayside and Nightside Pc 1-2 Pulsations Observed by the Cluster Spacecraft

Kozyreva, O. V.	contributed	Unusual Large-Amplitude Pc5 ULF Waves During October and November 2003 Superstorms by Using Multi-Point Ground Data
Leisner, J. S.	contributed	Ion Cyclotron Waves in Saturn's E-ring
Lysak, R. L.	contributed	Acceleration of Auroral Electrons by Kinetic Alfvén Waves
Orita, D.	contributed	Analysis of CPMN ULF Data at the Magnetic Conjugate Points
Pilipenko, V. A.	contributed	Applications of ULF Wave Index: From the "Killer" Electrons Dynamics to the Earthquake Forecasting
Shinbaru, T.	contributed	Observations of Ionospheric Electric Fields Associated With SC and Pc5 Magnetic Pulsations by FM-CW Radar at low Latitude
Shprits, Y. Y.	contributed	Radial Diffusion Modeling: Comparison with CRRES Observations
Takasaki, S.	contributed	Plasmaspheric Mass Density Increase at low-Latitudes (L~1.3) During Magnetic Storms
Teshima, T.	contributed	Comparison of Estimated Mass Density From CPMN and Intensity From IMAGE EUV at L~1.65
Uozumi, T.	contributed	MAGnetic Data Acquisition System (MAGDAS) for Realtime Monitoring of Geospace Environment
Wei, H. Y.	contributed	Planetary Upstream Waves