Proceedings of

SOHO 13 ‘Waves, Oscillations and Small-Scale Transients Events in the Solar Atmosphere: A Joint View from SOHO and TRACE’

29 September – 3 October 2003
Palma de Mallorca, Balearic Islands, Spain
Content

Opening Lecture

MHD Waves in the Solar Atmosphere
B. Roberts

Session 1: MHD Waves and Oscillations in Photospheric Structures
Chairman: B. Roberts

Absorption of Waves in Sunspots
P.S. Cally

Correlated Intensity Oscillations in the Upper Chromosphere and Upper Transition Region above Active Region Plage
B. De Pontieu

Time-Distance Helioseismology and the Magnetic Atmosphere of the Sun
Y. Taroyan, R. Erdélyi & J.G. Doyle

Active Region Oscillations as Observed by CDS, EIT and TRACE
D. Banerjee, E. O’Shea, A. de Groof & S. Poedts

Oscillations Above the Umbra of Sunspots
N. Brynildsen, P. Maltby, T. Fredvik & O. Kjeldseth-Moe

Oscillatory Signatures above Quiet Sun Magnetic Elements
D.S. Bloomfield, R.T.J. M’Ateer, B.W. Lites, P.G. Judge, M. Mathioudakis & F.P. Keenan

Posters

A Search for Photospheric Sources of Coronal Longitudinal Oscillations
J. Ireland, I. De Moortel, R.W. Walsh & P.F. Moretti

Solitary Wave Propagation from the Photosphere into the Solar Corona
R. Erdélyi & V. Fedun

Influence of Random Magnetic Field on Photospheric Surface Waves
R. Erdélyi, A. Kerekes, N. Mole & M.S. Ruderman
Random Flow Effects on Surface Waves  
R. Erdélyi, A. Kerekes & N. Mole  

Mode Conversion of Solar $p$-Modes in Non-Vertical Magnetic Fields  
A.D. Crouch & P.S. Cally  

On the Effect of Non-Uniform Subsurface Flows on High Degree $p$-Modes  
B.M. Shergelashvili & S. Poedts  

Session 2: Waves in the Chromosphere  
Chairman: M. Carlsson  

Theory and Simulations of Solar Atmosphere Dynamics*  

Observational Aspects of Waves in the Chromosphere*  
H. Uitenbroek  

COmospheric Waves  
T.R. Ayres  

Detectability of High Frequency Acoustic Waves with TRACE*  
A. Fossum & M. Carlsson  

MHD Wave Propagation in Open Flux Tubes in the Low Solar Atmosphere  
S.P. James & R. Erdélyi  

Observations of the Solar Chromosphere with SUMER  
K. Wilhem & W. Kalkofen  

Posters  

An Automated Wavelet Analysis Approach to TRACE Quiet Sun Oscillations  

Evolution of Blue-Shifted Hα Grains Observed in the Cell Interior  
S. Kamio & H. Kurokawa  

Mapping the Chromospheric Plasma Topography Through Chromospheric Oscillations  
S.W. McIntosh & B. Fleck  

Session 3: Topological Changes and Magnetic Coupling  
Chairman: R. Harrison  

Magnetic Coupling and Topological Change  
S.K. Solanki  

TRACE Downflows and Energy Release  
A. Asai, T. Yokoyama, M. Shimojo, R. TanDokoro, M. Fujimoto & K. Shibata
Posters

Topological Changes of the Magnetic Network as Seen in Different UV/EUV Emission Lines 169
L.D. Xia, E. Marsch & K. Wilhelm

Session 4: Waves and Oscillations in Prominences
Chairman: B. Fleck

Theoretical Aspects of Waves and Oscillations in Prominences 175
R. Oliver

Observational Aspects of Doppler Oscillations in Solar Prominences 185
E. Wiehr

Damping of Standing Alfvén Waves 193
T.V. Zaqarashvili, R. Oliver & J.L. Ballester

Plasma Condensation in Solar Coronal Loops: II. “Catastrophic Cooling” and High-Speed Downflows* 199
D.A.N. Müller, H. Peter & V.H. Hansteen

Fast MHD Oscillations in Multifibril Cartesian Systems 205
A.J. Díaz, R. Oliver & J.L. Ballester

Posters

Damping of Compressional Waves in Coronal Prominences 211
I. Ballai

Session 5: Transition Region Dynamics: Transients, Jets
Chairman: W. Curdt

Transition Region Dynamics 215
D.E. Innes

Energetic Implications of Transient Dynamic Events 223
A.R. Winebarger

Evidence for Wave Dissipation through EUV Emission Line Narrowing 229
R.A. Harrison, A.W. Hood & C.D. Pike

MHD Shocks: The Origin of the Solar Transition Region and Coronal Sporadic Events 239
M.P. Ryutova & T.D. Tarbell

Intensity Variations in EIT Shutterless Mode: Waves or Flows? 245
A. De Groof, D. Berghmans, L. Van Driel-Gesztelyi & S. Poedts

Analysis of Intensities, Line Widths and Line Shifts during Blinkers 251
A. Brković & H. Peter

Intense Blinker in Active Regions 257
P.R. Young
Episodic Coronal Loop Heating
C.A. Mendoza-Briceño & R. Erdélyi

Dynamics of Transition Region Blinkers
D. Bewsher, C. Parnell, D. Pike & R. Harrison

Posters

Short Duration Active Region Brightenings Observed in the EUV and Hα by SOHO/CDS and HIDA/DST

Transition Region and Coronal Loops Heated by Turbulence
X. Li, I. O’Neill & S.R. Habbal

Plasma Condensation in Solar Coronal Loops – I. Basic Processes
D.A.N. Müller, V.H. Hansteen & H. Peter

SUMER, UVCS and LASCO Observations of Small-Scale Ejecta
L. Teriaca, W. Curdt & G. Poletto

Dynamic Behaviors of the Quiet Sun Seen by SUMER
Z. Ning, D.E. Innes & S.K. Solanki

On Mutual Relation Among the Outer Atmospheric Layers in Network: SOHO/CDS Study
P. Gömöry, J. Rybák, A. Kučera, W. Curdt & H. Wöhl

SUMER/SOHO and TRACE Study of the Transition Region Blinker
F. Tomasz, J. Rybák, A. Kučera, W. Curdt & H. Wöhl

On Relations among the Calibrated Parameters of the Transition Region Spectral Line
J. Rybák, A. Kučera, W. Curdt & H. Wöhl

Interpretation of the Coronal EUV Signature of the CME Event on June 27 1999

Radiance Emission by Flaring Activity
A. Pauluhn & S.K. Solanki

Oscillations in Coronal Bright Points
I. Ugarte-Urra, J.G. Doyle, M.S. Madjarska & E. O’Shea

SUMER Observations of Heating and Cooling of Coronal Loops
W. Curdt, T.J. Wang, B.N. Dwivedi, B. Kliem & I.E. Dammasch

Statistical Study of SOHO/SUMER Full-Sun Images
E. Buchlin, J.-C. Vial, P. Lemaire & S. Galtier

Spatially-Resolved Diagnostics of Coronal Heating in Solar Active Regions
A. Fludra & J. Ireland
Session 6: Wave Acceleration in Open Magnetic Regions
Chairman: R. Oliver

Theoretical Aspects of Wave Acceleration in Open Magnetic Structures
L. Ofman 345

Observational Aspects of Wave Acceleration in Open Magnetic Regions
S.R. Cranmer 353

A Study of Transition Region and Coronal Doppler Shifts in a Solar Coronal Hole
M.D. Popescu & J.G. Doyle 363

Acceleration of the Fast Solar Wind through Minor Ions
X. Li 369

Dynamics and Properties of Coronal Funnels
T. Aiouaz, H. Peter, P. Lemaire & R. Keppens 375

Ion Heating across the Magnetic Field in the Solar Corona by Kinetic Alfvén Waves
Y. Voitenko & M. Goossens 381

Posters

Observational Constraints on Ion Acceleration by Waves in Coronal Holes
L. Xia & E. Marsch 387

A Search for Signatures of Preferential Heating by Ion Cyclotron Waves in the Low Corona
L. Dolla, J. Solomon & P. Lemaire 391

Bi-Directional Jets at Coronal Hole Boundaries
M.S. Madjarska, J.G. Doyle & L. Van Driel-Gesztelyi 397

Effect of the Line-of-Sight Integration on the Profiles of Coronal Lines
N.-E. Raouafi & S.K. Solanki 401

Session 7: Coronal Seismology
Chairmen: R. Erdélyi & M. Goossens

Theoretical Aspects of MHD Coronal Seismology
V.M. Nakariakov 407

Coronal Loop Oscillations: Overview of Recent Results In Observations
T.J. Wang 417

Observations and Theory of Longitudinal Waves in Coronal Loops
I. De Moortel, A.W. Hood & B. De Pontieu 427

Damping of Coronal EIT Waves as a Tool for Plasma Diagnostics*
I. Ballai & R. Erdélyi 433

Damping of Loop Oscillations in the Stratified Corona
R. Erdélyi & C.A. Mendoza-Briceño 441
Coupled Fast and Alfvén MHD Waves in Sheared Coronal Arcades
I. Arregui, R. Oliver & J.L. Ballester 447

Damping of Coronal Loop Oscillations
T. Van Doorsselaere, J. Andries, S. Poedt & M. Goossens 453

Initial Results from SECIS Observations of the 2001 Eclipse
A.C. Katsiyannis, R.T.J. McAteer, D.R. Williams, P.T. Gallagher & F.P. Keenan 459

Posters

New Damping Mechanism for Coronal Loop Kink Oscillation
T.V. Zaqarashvili, R. Oliver & J.L. Ballester 465

3D MHD Simulation of the Interaction of Fast Magnetosonic Waves and a Coronal Active Region*
J. Terradas & L. Ofman 469

Acoustic Oscillations in Solar and Stellar Flaring Loops

Observations of Sunward Flows in the 21 April 2002 Postflare Supra-Arcade
D.E. Innes & T. Wang 479

Coronal Seismology by MHD Autowaves
A. Kelly & V.M. Nakariakov 483

Fast MHD Oscillations in Coronal Loops with Heating Profiles
A.J. Díaz, R. Oliver & J.L. Ballester 489

3D Numerical Simulations of Impulsively Generated MHD Waves in Solar Coronal Loops
M. Selwa, K. Murawski, G. Kowal, V. Nakariakov, M. Aschwanden, R. Oliver & J.L. Ballester 495

Time-Frequency Analysis of Quasi-Periodic Signals
I. De Moortel, S. Munday & A.W. Hood 501

Oscillations of Coronal Loops with Elliptic Cross-Sections
M.S. Ruderman & R. Erdélyi 507

Diagnosing MHD Wave Detections in Solar Coronal Loops: Torsional Effects
D.R. Williams 513

Longitudinal Oscillations in Coronal Loops – Joint Observations with SOHO/CDS and TRACE
M.S. Marsh, R.W. Walsh, I. De Moortel & J. Ireland 519

Quasi-Modes on Curved Solar Coronal Loops
T. Van Doorsselaere, A. Debosscher & S. Poedts 525

Coronal Loop Oscillations
G.R. Donnelly & B. Roberts 531

MHD Waves in the Neighbourhood of a 2D X-Type Neutral Point
J.A. McLaughlin & A.W. Wood 537
Special Presentation

Saving SOHO*
B. Fleck

LIST OF PARTICIPANTS

Additional Material

MOVIES (Included in Individual Papers Marked with * – Also available in individual folders under Session_# / movies_main_author):

Session 2:


H. Uitenbroek

A. Fossum & M. Carlsson

Session 4:

D.A.N. Müller, H. Peter & V.H. Hansteen

Session 7:

I. Ballai & R. Erdélyi

Poster:

J. Terradas & L. Ofman

Special Presentation:

B. Fleck

CONFERENCE PHOTOS (Available under folder Photos)

Group Photo

Photos (html)  Conference Dinner

Photos provided by participants