



SCIENTIFIC PROGRAMME

Sunday, 1st November

19:00 – 20:00 Registration and Welcome cocktail

Monday, 2nd November

08:00 – 09:00 Registration

09:00 – 09:15 Welcome Address

Session I Flux emergence in the interior and low atmosphere

09:15 – 09:45 **Invited review:** Flux emergence and the role of convection and large scale flows (S. Brun)

09:45 – 10:15 **Invited review:** Magnetic flux emergence in granular convection (M Cheung)

10:15 – 10:30 MHD flux emergence simulations through a convecting layer (A Lagerfjaerd)

10:30 – 11:00 **POSTER SESSION**

11:00 – 11:45 **Coffee-break**

11:45 – 12:15 **Invited review:** Observations of flux emergence events in the quiet Sun (L Bellot Rubio)

12:15 – 12:30 Linking the quiet photosphere and chromosphere with small magnetic loops (MJ Martinez Gonzalez)

12:30 – 12:45 Signatures of magnetic reconnection occurring in a small-scale emerging flux region inferred by high-resolution multi-wavelength observations (S Guglielmino)

12:45 – 13:00 Formation of a penumbra (N. Bello)

13:00– 14:30 **Lunch break**

Session II Flux emergence into the higher atmosphere

14:30 – 15:00 **Invited review:** Coronal jets: 3D numerical experiments and observations (K Galsgaard)

15:00 – 15:30 **Invited review:** Chromospheric anemone jets, emerging flux, and Ellerman bombs (K Shibata)

15:30 – 15:45 Photospheric and coronal signatures of flux emergence (A Hood)

15:45 – 16:00 Toroidal flux emergence (D McTaggart)



16:00 – 16: 45 **Coffee-break**

- 16:45 – 17:00 Photospheric flows during flux emergence that drive coronal mass ejections (W Manchester)
- 17:00 – 17:30 **Invited review:** Flux emergence into the high atmosphere (V Hansteen)
- 17:30 – 17:45 Quasi-realistic 3D simulations of flux emergence into the corona (J Martinez Sykora)
- 17:45 – 18:00 3D MHD simulations of solar active regions (J.C. Santos)

Tuesday, 3rd November

Session III Connectivity between atmospheric layers

- 09:00 – 09:30 **Invited review:** Observations of photospheric-chromospheric magnetic coupling (H. Socas)
- 09:30 – 09:45 Magnetic field strength and topology of active region filaments (C. Kuckein)
- 09:45 – 10:00 Measurement of photospheric horizontal motions in filament footpoints: comparison between different techniques (P. Romano)
- 10:00 – 10:30 **Invited review:** Spectropolarimetric investigations of the magnetization of the quiet Sun chromosphere (J. Trujillo-Bueno)
- 10:30 – 10:45 H-alpha as diagnostics of chromospheric magnetism (J. Stepan)
- 10:45– 11:30 **Coffee-break**
- 11:30 – 11:45 Reconstruction of a coronal magnetic flux rope from THEMIS/MTR vector map using nlfff extrapolation (B. Schmieder)
- 11:45 – 12:00 Non-linear force-free field models of small-scale solar magnetic fields (K. Meyer)
- 12:00 – 12:15 Effect of solar chromospheric neutrals on equilibrium field structures (G.J.J. Botha)
- 12:15 – 12:30 MHD dynamical evolution to MHS equilibria (J. Fuentes-Fernandez)

12:30 – 14:30 **Lunch break**

Session IV Connectivity between atmospheric layers (cont)

- 14:30 – 15:00 **Invited review:** Recent results on the dynamical evolution of topological structures (E. Pariat)
- 15:00 – 15:15 Magnetic skeletons: How to find them and why are they important (A. Haynes)
- 15:15 – 15:30 A phenomenological model for fluctuating magnetic fields in the photosphere (K. Petrovay)



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15:30 – 16:00 **POSTER SESSION**

16:00 – 16:45 **Coffee-break**

16:45 – 17:00 Momentum exchange between distant points of solar surface (R. Grappin)

17:00 – 17:15 A non wave model for coronal waves (C. Delanee)

17:15 – 17:30 Magneto-acoustic waves in sunspots: first results from a new 3D nonlinear magnetohydrodynamic code (T. Felipe)

Special session: the SUNRISE mission

17:30 – 18:00 **Invited review:** SUNRISE: the mission, the flight (June 2009) and first results (V. Martínez Pillet)

Wednesday, 4th November

Session V Reconnection

09:00 – 09:30 **Invited review:** Separator and non-null reconnection (C. Parnell)

09:30 – 10:00 **Invited review:** Magnetic reconnection at 3D null points (D. Pontin)

10:00 – 10:15 Magnetic Reconnection in weakly ionized solar chromosphere (H. Isobe)

10:15 – 10:45 **POSTER SESSION**

10:45 – 11:30 **Coffee-break**

11:30 – 12:00 **Invited review:** MHD simulations of reconnection in a current sheet with initial finite perturbations (T. Yokoyama)

12:00 – 12:15 Spontaneous non-steady and high-power reconnection within the solar atmosphere (L. Bettarini)

12:15 – 12:30 Coronal heating and nanoflares as gradient driven instabilities (J. Vranjes)

12:30 – 12:45 The Parker problem for coronal heating: magnetically dominated MHD turbulence in a low-beta environment (F. Rapazzo)

12:45 – 14:30 **Lunch break**

Session VI Flares

14:30 – 15:00 **Invited review:** The magnetic environment and evolution in flares: General theory and flux emergence models (B. Kliem)



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- 15:00 – 15:15 Probing multiscale dynamical systems with solar flare observations (S. Liu)
15:15 – 15:45 **Invited review:** The magnetic environment and evolution in flares: observations (F. Zuccarello)
15:45 – 16:00 A radiative hydrodynamic model applied to solar flares. (F. Rubio da Costa)
- 16:00 – 16:45 **Coffee-break**
- 16:45 – 17:15 **Invited review:** Electron and ion acceleration in solar flares (N. Vilmer)
17:15 – 17:30 Particle acceleration in flares by collapsing magnetic traps (K. Grady)
17:30 – 17:45 Solar flare PIC simulation results (G. Baumann)
17:45 – 18:00 Total volume of non-ideal regions in cascading magnetic reconnection and particle acceleration in solar flares (M. Barta)
- 20:00 – 23:00 **Closing dinner at El Monasterio restaurant**

Thursday, 5th November

Session VII CMEs

- 08:45 – 09:15 **Invited review:** CME initiation: flux emergence (C Jacobs)
09:15 – 09:30 Trend of magnetic helicity in active regions generating halo CMEs (A. Smyrli)
09:30 – 10:00 **Invited review:** Large-scale development of CMEs (T. Török)
10:00 – 10:15 The CME triggering mechanism in the flux cancellation model (G. Aulanier)
10:15 – 10:30 The role of side magnetic reconnections in coronal mass ejections: observations and simulations (A. Soenen)
- 10:30 – 11:15 **Coffee-break**
- 11:15 – 11:45 **Invited review:** CME propagation in the interplanetary medium (J. Kleimann)
11:45 – 12:00 Dynamics of self-similarly evolving magnetic clouds (G. Dalakishvili)
12:00 – 12:30 **Invited review:** Kinetic-theory aspects of reconnection (A. Nordlund)