PIPA2016: PARTIALY IONISED PLASMAS IN ASTROPHYSICS

Monday 29 August – Friday 2 September, 2016
Hotel Nivaria, La Laguna (Tenerife)

PROGRAMME

MONDAY, 29 August

8:00 – 9:00 REGISTRATION (NIVARIA HOTEL)

Session 1 Fundamental physical processes in partially ionised plasmas (chair E. Khomenko)

9:00 – 9:10	Welcome	
9:10 – 9: 45	IT: Nikolai Pogorelov	Partially Ionized Plasma in the Solar Wind and Its Interaction with the Local Interstellar Medium
9:45 – 10:15	ST: Gary Zank	Multi-component Plasma Modeling and Dynamics in the Presence of a Suprathermal Non-equilibrated Ion Population
10:15 – 10:40	Donna Rodgers-Lee	Angular momentum transport in weakly ionised protoplanetary disks (S3)

10:40 -11: 30 COFFEE BREAK

11:30 – 12:05	IT: Manuel Collados	Overview of multi-fluid equations and transport effects
12:05 – 12:30	Wargnier Quentin	Transport properties for magnetized sun chromosphere based on the Chapman-Enskog expansion
12:30– 12:55	Sven Van Loo	Ambipolar diffusion regulated collapse of filaments threaded by perpendicular magnetic fields

12:55 -15: 00 LUNCH BREAK
Session 1 Fundamental physical processes in partially ionised plasmas (chair M. Wardle)

15:00 – 15:35	IT: Eberhard Möbius	Observational evidence of the heliosphere-interstellar medium interaction obtained from neutral atom imaging with IBEX and pickup ion observations
15:35 – 16:00	Kris Murawski	Godunov-type numerical methods for magnetohydrodynamics

16:00 -16: 30 COFFEE BREAK

16:30 – 17:05	IT: Antonius Otto	Ionospheric Electrodynamics - Basic Physics and Field-Aligned Currents
17:05 – 17:30	Izmodenov Vladislav	Charge exchange reactions at interfaces between neutral gas and plasma: Dynamical effects and X-ray emission

TUESDAY 30 August

Session 2 Waves and instabilities in partially ionised plasmas: theory and observations (p1)
Chair: I. Ballai

9:00 – 9:35	IT: Roberto Soler	Waves and instabilities propagation in solar plasmas
9:35– 10:05	ST: Vytenis Vasyliunas	Role of waves in the dynamics of planetary magnetospheres and ionospheres
10:05 – 10:30	Irantzu Santamaria	High frequency waves in the presence of a null point: resonant cavity?

10:30 – 11:30 COFFEE BREAK

11:30 – 12:05	IT: Mark Wardle	Instabilities in Accretion Disks
12:05 – 12:30	Sam Falle	Numerical Simulations of the Wardle Instability
12:30 – 12:55	Michael Ruderman	Rayleigh-Taylor instabilities with sheared magnetic fields in partially ionised plasmas: High-beta approximation

12:55 – 15:00 LUNCH BREAK
Session 2 Waves and instabilities in partially ionised plasmas: theory and observations (p1)
Chair: P. Song

15:00 – 15:25	Wojciech Miloch	Kinetic plasma instabilities in weakly collisional ionospheric plasmas
15:25– 15:50	David Martínez Gómez	Onset of the Kelvin-Helmholtz instability in partially ionized magnetic flux tubes
15:50 – 16:15	Manuel Luna	Large-Amplitude Oscillations in Prominences

16:15 – 16:45 COFFEE BREAK

16:45 – 17:10	Alejandro Alvarez Laguna	Computational Multi-Fluid Model for Partially Ionized and Magnetized Plasma (S4)

WEDNESDAY, 31 August: Conference excursion to Teide Observatory and Teide National Park

Lunch will be provided at the residence of the Teide Observatory. The price of the excursion and lunch are included in the registration fee.

09:00 –10:00 bus Nivaria Hotel – Observatorio del Teide (OT)
10:00 –13:00 Visit to the Observatorio del Teide
13:00 – 15:00 lunch at the OT
15:00 – 17:00 visit to the Teide National Park
17:00 – 18:00 bus from Teide National Park to Nivaria hotel

THURSDAY 1 September

Session 2 Waves and instabilities in partially ionised plasmas: theory and observations (p2)
Chair: S. Falle

9:00 – 9:25	Ramon Oliver	The role of Alfvén wave heating in solar prominences
9:25 – 9:50	Jo Raes	Observations of apparent superslow wave propagation
9:50 – 10:15	Istvan Ballai	Shock waves in partially ionised plasmas
10:15 – 10:40	Yana Maneva	Multifluid simulations of driven slow and fast magnetosonic waves in the solar chromosphere

10:40 – 11:30 COFFEE BREAK

11:30 – 11:55	Paul Song	The Physical Processes in the Chromosphere: From a View of Partially Ionized Plasma Physics
11:55 – 12:20	Elena Khomenko	Mode conversion and wave heating in solar partially ionized atmosphere
12:20 – 12:45	James Mather	TBD

12:55 – 15:00 LUNCH BREAK

Session 3 Turbulence, dynamo and non-linear processes
Chair: M. Goodman

15:00 – 15:35	IT: Turlough Downes	Turbulence in Weakly Ionised Astrophysical Plasmas
15:35 – 16:00	Sergei Khaibrakhmanov	Ionization state and MHD effects in accretion disks of young stars
16:00 – 16:25	Pedro Gonzalez-Morales	Introducing a new explicit scheme into Mancha3D code for overcoming the time step limitations in simulations of partially ionised solar plasma

16:25 – 17:00 COFFEE BREAK

17:00 -17:35	IT: Oliver Gressel	Dynamos in Turbulent Accretion Disks
17:35 – 18:00	Beatrice Popescu	Two-fluid simulations of waves and reconnection with Mancha code

20:30 CONFERENCE DINNER

FRIDAY, 2 September

09:30 – 10:30 free excursion to La Laguna

10:30 – 11:00 COFFEE BREAK

Session 4 Magneto-convection, flux emergence and reconnection in partially ionised plasmas
Chair: T. Downes

11:00 – 11:35	IT: Juan Martinez-Sykora	Magneto convection and partial ionization
11:35 – 12:05	ST: Vyacheslav Lukin	Reconnection in partially ionised plasmas and its application to solar physics
12:05 – 12:30	Michael Goodman	Photospheric Current Spikes as Possible Predictors of Flares
12:30 – 13:05	IT: Alexandre Lazarian	Star formation mediated by reconnection diffusion
13:05 – 13:30	Nikola Vitas	Realistic 3D simulations of the solar photosphere with the MANCHA code