

ISSI WORKSHOP ON MULTI-SCALE STRUCTURE FORMATION AND DYNAMICS IN COSMIC PLASMAS

PROGRAM

MONDAY 15.04.2013

08:30-09:00	Registration in ISSI, Hallerstrasse 6, 1 st floor	
09:00	Welcome	
09:15 - 09:30	Introduction to the Workshop: ISSI workshop series on structure formation and dynamics of cosmic plasmas	André Balogh
PART 1: LARGE-SCALE STRUCTURES IN ASTROPHYSICS		
	Chairman	
09:30 - 10:00	Plasma structures in astrophysics	Jan Kuijpers
10:00 - 10:30	Cosmological scale structures	Tom W. Jones
10:30 -11:00	Feedback and Galaxy Formation	Joe Silk
11:00-11:30 <i>Coffee break</i>		
11:30 - 12:00	Structure formation in the early universe	Dominik Schleicher
12:00 - 12:30	Shocks in the Large-Scale Structure	Francesco Miniati
12:30 - 13:00	Non-linear structures in cosmic-ray pressure dominated plasmas	Brian Reville
13:00-14:00 <i>Lunch</i>		
	Chairman	
14:00 - 14:30	Cluster formation and thermodynamics of the intra-cluster gas	Susana Planelles (YS) for Stefano Borgani
14:30 - 15:00	Accretion shocks - gas physics, magnetic fields, cosmic rays	Chiara Ferrari
15:00 - 15:30	Existence and role of turbulence on the scale of clusters of galaxies	Gianfranco Brunetti
15:30-16:00 <i>Coffee break</i>		
16:00 - 16:30	Observational signatures of galaxy cluster mergers	Georgiana Ogrean (YS)
16:30 - 17:00	Galactic superwinds and cluster metallicities	Jelle Kaastra
17:00 <i>Welcome reception</i>		

TUESDAY 16.04.2013

PART 3: AGN STRUCTURES

	Chairman	
09:30 - 10:00	AGN feedback	Eugene Churazov
10:00 - 10:30	Relativistic jet formation and dynamics	Shigehiro Nagataki
10:30 - 11:00	AGN winds	Jacobo Ebrero (with Demos Kazanas)

11:00-11:30 Coffee break

PART 4: GALACTIC STRUCTURES

11:30 - 12:00	Spiral structures and magnetic fields	Uli Klein
12:00 - 12:30	Structures in the galactic centre	Maurizio Falanga

12:30-14:00 Lunch

PART 5: INTERSTELLAR STRUCTURES

	Chairman	
14:00 - 14:30	Synchrotron structures in supernova remnants	Andrei Bykov
14:30 - 15:00	Structure and Evolution of Pulsar Wind Nebulae	Patrick Slane
15:00 - 15:30	Intermittent structures in the ISM: superbubbles, supershells and their observational appearance	You-Hua Chu

15:30 - 16:00 Coffee break

16:00 - 16:30	Structures in star formation, protostellar disks	Manuel Guedel
16:30 - 17:00	Ambipolar diffusion/Hall effect/Ohmic heating/magnetic turbulence in clouds and disks	Mark Wardle
17:00 - 17:30	"Structures of winds of massive stars"	Cyril Georgy (YS)

WEDNESDAY 17.04.2013

PART 6: SOLAR STRUCTURES AND DYNAMICS

	Chairman	
09:30 – 10:00	Structure and dynamics of the Sun's interior	Laurent Gizon
10:00 – 10:30	Effects of the chromosphere on coronal heating and structures	Boris Gudiksen
<i>10:30-11:00 Coffee break</i>		
11:00 - 11:30	Coronal loops	Peter Cargill
11:30 - 12:00	Coronal Mass Ejections - Eruptive Flares	Lyndsay Fletcher
12:00 - 12:30	Dynamics and topology of the large-scale coronal magnetic field	Lyndsay Fletcher on behalf of Spiro Antiochos
<i>12:30 Lunch</i>		
14:00	Free time to visit the attractions of Bern Also: All ISSI facilities are available for small group discussions	
<i>19:00 Workshop dinner: Kornhauskeller restaurant, Bern</i>		

THURSDAY 18.04.2013

PART 7: HELIOSPHERIC STRUCTURE AND DYNAMICS

	Chairman	
09:30 – 10:00	Solar wind dynamics and Corotating Interaction Regions	André Balogh
10:00 – 10:30	Interplanetary dynamics of Coronal Mass Ejections	Jens Kleimann
10:30 - 11:00	The heliosphere: Termination Shock, heliosheath, heliopause	Merav Opher

11:00-11:30 Coffee break

PART 8: MAGNETOSPHERIC STRUCTURES AND DYNAMICS

11:30 - 12:00	Magnetospheric boundaries and structures	Masaki Fujimoto
12:00 - 12:30	The magnetopause	Tai Phan

12:30-14:00 Lunch

	Chairman	
14:00 - 14:30	The magnetospheric tail	Jonathan Eastwood
14:30 - 15:00	Structures in plasmas: structures in the magnetospheric tail	Lev Zelenyi
15:00 – 15:30	Global simulations of solar wind – magnetosphere interactions	Gábor Tóth

15:30-16:00 Coffee break

16:00 - 16:30	Auroral structures and dynamics	Harald Frey
16:30 - 17:00	"Collisionless shocks and shock-shock interactions"	Heli Hietala (YS)

17:00 - 18:00	General outline of ISSI book, organisation, followed by splinter groups for book chapters ISSI facilities, rooms available	André Balogh
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FRIDAY 19.04.2013

PART 9: CONCLUDING TALKS

	Chairman	
09:30 - 10:00	The role of helicity in structuring cosmic plasmas	Eric Blackman
10:00 - 10:30	From the magnetosphere to cosmic plasmas - the reach across the scales	André Balogh, Andrei Bykov
10:30-11:00	<i>Coffee break</i>	
11:00 – 12:00	Structured discussion of topics of joint interest to plasma physicists in the solar system and astrophysics	Jelle Kaastra, Jonathan Eastwood (moderators)
12:00 – 13:00	Reports from splinter groups, authors Book plans, actions, schedule	Led by Convenors
13:00	<i>Close of Workshop</i>	