

July 1<sup>st</sup> – July 5<sup>th</sup> 2013

Biarritz, FRANCE



## Conference Program

### Sunday, June 30<sup>th</sup>

16h00 – 19h00

**CONFERENCE REGISTRATION**

### Monday, July 1<sup>st</sup>

8h00 – 8h45

8h45 – 9h00

9h00 - 9h25 POGORELOV Nikolai

9h25 – 9h50 BOROVNIKOV Sergey

9h50 – 10h15 MULLER Wolf-Christian

10h15- 10h40 Tahar Amari

10h40 – 11h00 COFFEE BREAK

11h00 – 11h25 LINKER Jon

11h25 – 11h50 DYADECHKIN Sergey

11h50 – 12h15 PIERRARD Viviane

12h15 – 12h40 ZANK Gary

12h40 – 14h00 LUNCH

14h00 - 14h40 LAZARIAN Alex

14h40 - 15h05 BERESNYAK Andrey

15h05- 15h30 AMANO Takanobu

15h30 – 15h50 COFFEE BREAK

15h50 - 16h30 COLLELA Philip

16h30 – 16h55 VAN STRAALEN Brian

16h55 – 17h20 ROEDIG Constanze

### REGISTRATION

### WELCOME TALK

"Time-dependent Processes in the Sheath Between the Heliospheric Termination Shock and the Heliopause"  
"Numerical modeling of the heliotail."

"Magnetohydrodynamic turbulence in a strong mean magnetic Field"

"Time-Dependent Coupled Coronal-Solar Wind Modeling\*"

"Mars and Venus Interaction with the Solar Wind by Using a Spherical Hybrid Model"

"A kinetic model of the solar wind"

"Heliospheric structure: the bow wave and the hydrogen wall"

« Magnetic Reconnection in Turbulent Astrophysical Media: Changing of Astrophysical Paradigms"

"On the Rate of Spontaneous Magnetic Reconnection"

"Relativistic Pulsar Wind Termination Shocks Modified by Superluminal Electromagnetic Waves"

"Design criteria for high-order methods for hyperbolic PDE"

"Hybrid AMR Eulerian-Lagrangian Cosmology Models on Massively Parallel Architectures"

"stabilizing general relativistic radiation hydrodynamics (gr-rhd) and exploring physical limitations."



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## Tuesday, July 2st

### Parallel session I

9h00 - 9h25 LII Patrick	« One-sided out flows driven from the disk-magnetosphere interface of magnetized stars »
9h25 – 9h50 FENG Xueshang	“Data-driven modeling of active region and time-dependent solar wind background”
9h50 – 10h15 TAKAHASHI Hiroyuki	“explicit-implicit scheme for relativistic radiation hydrodynamics”
10h15- 10h40 HOLMSTROEM Mats	“Hybrid modeling of the interaction between the solar wind and Planets”
10h40 – 11h00 <u>COFFEE BREAK</u>	
11h00 - 11h25 MIMICA Petar	« Challenges in computing thermal and non-thermal emission from relativistic outflows”
11h25 – 11h50 TAKAMOTO Makoto	“Max-Planck-Institute for Nuclear Physics”
11h50 – 12h15 MIRANDA Sergio Manuel	“Building a non-ideal numerical relativistic magnetohydrodynamics code for astrophysical applications.”
12h15 – 12h40 HENDRIX Tom	“Dusty kelvin-helmholtz Instabilities and the molecular cloud connection”
12h40 – 14h00 <u>LUNCH</u>	
14h00 – 14h40 RAEDER Joachim	“Plasma Entropy in the Magnetosphere”
14h40 - 15h05 GONZALEZ Matthias	“The influence of frequency-dependent radiative transfer on the structures of radiative shocks “
15h05- 15h30 MINIATI Francesco	“Turbulent Flows in Galaxy Clusters: from Core to Virial Radius and Beyond”
15h30 - 15h50 <u>COFFEE BREAK</u>	
15h50 - 16h30 LAPENTA Giovanni	“3D Kinetic Magnetic Reconnection: a riddle, wrapped in a mystery, inside an enigma”
16h30 – 16h55 EYINK Gregory	“MHD Turbulence Under the Virtual Microscope”
16h55 – 17h20 OMELCHENKO Yuri	“Parallel Asynchronous Simulations of High-Speed Magnetized Plasma Flows”
17h20 – 17h45 LI Bo	“Can solar coronal loops be heated by the anisotropic Magnetohydrodynamic turbulence?”

### Parallel session II

9h00 - 9h25 Xiao Xia Yu	“Can solar coronal loops be heated by the anisotropic Magnetohydrodynamic turbulence?”
9h25 – 9h50 PAN Liubin	“Influence of Magnetic Clouds on Variations of Cosmic Rays in November 2004 “
9h50 – 10h15 KOROVINSKIY Daniil	“MHD modeling of the kink “double-gradient” branch of the ballooning instability in the magnetotail”
10h15- 10h40 GARCIA Luiz	“Primordial magnetic fields and dynamos from parity violated torsion”
10h40 – 11h00 <u>COFFEE BREAK</u>	
11h00 – 11h25 GERMASCHEWSKI Kai	“Particle-in-cell simulations of mirror mode structures in the Magnetosphere”
11h25 – 11h50 KAEPELI Roger	“Structure preserving schemes”
11h50 – 12h15 KHUBCHANDANI Mohan	



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## Wednesday, July 3st

9h00 - 9h25 LI Shengtai

"A Simulation Tool for Dusty Proto-Planetary Disks"

9h25 – 9h50 BANERJEE Robi

"The formation of discs in turbulent cloud cores"

9h50 – 10h15 DEL ZANNA Luca

"High-order schemes for non-ideal 3+1 GRMHD: a study of the kinematic mean-eld dynamo process in accreting torii around Kerr black holes"

10h15- 10h40 BUCCIANTINI Niccolo

"Solving 3+1 GRMHD Equations in the eXtended Conformally Flat Condition: the X-ECHO and XNS codes"

10h40 – 11h00 COFFEE BREAK

11h00 – 11h25 LOVELACE Richard

"Global 3D MHD Simulations of Waves in Accretion Discs"

11h25 – 11h50 LESUR Geoffroy

"Hall effect in protoplanetary discs"

11h50 – 12h15 BISIKALO Dmitry

"Tilted disc formation in intermediate polars"

12h15 – 12h40 ROMANOVA Marina

"Global simulations of accretion onto magnetized stars: results of 3D MHD simulations and 3D radiative transfer"

12h40 – 14h00 LUNCH

14h00 - 14h40 MEZZACAPPA Anthony

"The Core Collapse Supernova Explosion Mechanism: How Close Are We?"

14h40 - 15h05 VIGH Carlos

"A bi-fluid model to investigate impact of cosmic rays over magnetohydrodynamic turbulence in the interstellar medium."

15h05- 15h30 Walder Rolf

"Multi-scale, multi-physics simulation of microquasars - first results"

15h30 - 15h50 COFFEE BREAK

15h50 - 16h15 GANSE Urs

"Perlin Noise as a Turbulence Model for Particle Transport"

16h15 - 16h40 KIM Woong-Tae

"Physical Properties of Gaseous Substructures in Barred Galaxies: Effects of the Bar Strength"

16h40 - 17h05 BURKHART Blakesley

"Capturing the Statistics of Observational Molecular MHD Turbulence through Numerical Simulations"

17h05 - 17h30 SPANIER Felix

"Charged particle transport in turbulent media"

19h30

**SOCIAL EVENT** - "Transat café"

## Thursday, July 4st

9h00 - 9h25 DE ZEEUW Darren

"Virtual Model Repository (VMR) Scientific Analysis Tools"

9h25 – 9h50 HANAWA Tomoyuki

"Radiative Hydrodynamical Simulations of Protoplanetary Disks"

9h50 – 10h15 AUDIT Edouard

"A Godunov-Type Solver for the Numerical Approximation of Gravitational Flows"

10h15- 10h40 KUPKA Friedrich

"Improved time integration for WENO methods in astrophysical applications"

10h40 – 11h00 COFFEE BREAK

11h00 – 11h25 Takahashi Kazuya

"On the existence and non-uniqueness of solutions of Riemann problems in ideal magnetohydrodynamics"

11h25 – 11h50 ZANOTTI Olindo

"An ADER-WENO Finite Volume AMR code for Astrophysics"

11h50 – 12h15 JOKIPII Jack

"Aspects of Stochastic Integration of Parker's Transport Equation"

12h15 – 12h40 VAYTET Neil

"Shock waves and star formation using multigroup radiation hydrodynamics."



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12h40 – 14h00 LUNCH

14h00 – 14h25 MIGNONE Andr ea

"Current-Driven Instabilities in the Crab Nebula: 3D Relativistic MHD simulations"

14h25 – 14h50 HELZEL Christiane

"Unstaggered constrained-transport methods for the three-dimensional ideal magnetohydrodynamic equations"

14h50 – 15h15 BARD Christopher

"Multi-GPU 3D Hall Magnetohydrodynamics"

15h15 – 15h40 BALSARA Dinshaw

"Multidimensional Riemann Solvers for Astrophysics"

15h40 – 16h00 COFFEE BREAK

16h00 – 16h25 TOROPINA Olga

"Magnetized Neutron Stars in the Interstellar Medium"

16h25 – 16h50 CHO Jungyeon

"Turbulence and Magnetic Field in the Large-scale Structure of the Universe"

16h50 – 17h15 TOTH Gabor

"High order schemes in BATS-R-US: is it OK to simplify them?"

17h15 - 17h40 BOLDYREV Stanislav

"The turbulence of whistlers"

## Friday, July 5st

9h00 - 9h25 MODOLO Ronan

"Mars-Solar wind interaction: coupling between hybrid and exospheric models"

9h25 – 9h50 FICHTNER Horst

"Numerical Modelling of Anomalous Transport of Cosmic Rays"

9h50 – 10h15 Singh Kunwar Alkendra

10h15- 10h40 EFFENBERGER Frederic

"Energetic particle transport with Stochastic Differential Equations: General methods and the extension to anomalous diffusion regimes"

10h40 – 11h00 COFFEE BREAK

11h00 – 11h25 YALIM Mehmet Sarp

"3D Global Magnetohydrodynamic Simulations of the Solar Wind/Earth's Magnetosphere Interaction"

11h25 – 11h50 DE GOUVEIA DAL PINO Elisabete

"Cosmic Ray Acceleration in Magnetic Reconnection sites"

11h50 – 12h15 VAN DER HOLST Bart

"MHD simulations: Corotating Interaction Regions"

12h15 – 12h40 IBGUI Laurent

"3D Grey Radiative Properties of Accretion Shocks in Young Stellar Objects."

12h40 – 14h00 LUNCH

14h00 – 14h25 WIENGARTEN Tobias

"MHD simulations: Corotating Interaction Regions"

14h25 – 14h50 HANEN Hamdi

"The first principles calculation of WO3"

14h50 – 15h15 SHEN Fang

"Could the collision of CMEs in the heliosphere be superelastic? Validation through three-dimensional simulations"

15h15 – 15h40 YAN Huirong

"Cross field transport of Cosmic Rays in turbulence"

15h40 - 16h00 COFFEE BREAK



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