

19:30 – 21:30		Sunday 3rd July - Welcome Cocktail	
<b>Monday 4th July - Radisson Blue Hotel</b>			
8:30 – 9:30	Registration		
9:30 – 10:00	Room Carmen: Opening Ceremony Chair: P. Zabinski		
10:00 – 10:40	Room Carmen: Keynote Speech 1 - Leo BUHLER Chair: A. Sellier		
10:40 – 11:00	Coffee Break		
11:00 – 12:00	Room Carmen: Fund. MHD (108–43–52)	Room Halka: Fund. MHD (16–20–63)	
	Chair: A. Sellier	Chair: J. Mestel	
12:00 – 14:00	Lunch		
14:00 – 14:40	Room Carmen: Keynote Speech 2 – Andrejs CEBERS Chair: S.Cuevas		
14:40 – 15:40	Room Carmen: Fund. MHD (51–19–86)		
	Chair: S.Cuevas		
15:40 – 16:00	Coffee Break		
16:00 – 17:00	Room Carmen: Fund. MHD (27–36–49)	Room Halka: Free surf. flows (111–104–110)	
	Chair: S.Cuevas	Chair: A.Bouabdellah	
17:00 – 18:00	Meeting of the MHD society		
<b>Tuesday 5th July Radisson Blue Hotel</b>			
9:00 – 9:40	Room Carmen: Keynote Speech 3 – Agris GAILITIS Chair: F. Stefani		
9:40 – 10:40	Room Carmen: Basic MHD (6–40–102)	Room Halka: Electr. proc. of mat. (10–25–28)	
	Chair: F. Stefani	Chair: R. Avalos	
10:40 – 11:00	Coffee Break		
11:00 – 12:20	Room Carmen: Fund. MHD (12–50–82–76)	Room Halka: Electr. proc. of mat. (31–33–34)	
	Chair: F. Stefani	Chair: R. Avalos	
12:30 – 14:00	Lunch		
14:00 – 14:40	Room Carmen: Keynote Speech 4 – Anne-Lise DALVIN Chair: G. Mutschke		
14:40 – 15:40	Room Carmen: Fund. MHD (37–11–95)	Room Halka: Electr. proc. of mat. (41–53–54)	
	Chair: G. Mutschke	Chair: A. Kharicha	
15:40 – 16:00	Coffee Break		
16:00 – 17:00	Room Carmen: Fund. MHD (66–47–4)	Room Halka: Electr. proc. of mat. (62–42–55)	
	Chair: G. Mutschke	Chair: A. Kharicha	
17:00 – 18:00	POSTER SESSION (9-15-22-23-26-29-38-61-68-93-94–109-113-115-116)		
	Chairs: A. Alemany – C. Latge – P. Zabinski		
19:30 – 23:30	Gala Dinner & Poster Prize		
<b>Wednesday 6th July - Radisson Blue Hotel</b>			
9:00 – 9:40	Room Carmen: Keynote Speech 5 – Laurent DAVOUST Chair: A.L. Daltin		
9:40 – 10:40	Room Carmen: EHD & Electrok. (44–74)	Room Halka: MEHD generators (107–67–75)	
	Chair: C. Latge	Chair: A.L. Daltin	
10:40 – 11:00	Coffee Break		
11:00 – 12:20	Room Carmen: LIQU MET. TECH. (8–13–5–14)	Room Halka: Basic MHD (65–17–57–117)	
	Chair: C. Latge	Chair: A.L. Daltin	
12:30 – 19:30	Lunch & Excursion (Wieliczka)		
<b>Thursday 7th July - Radisson Blue Hotel</b>			
9:00 – 9:40	Room Carmen: Keynote Speech 6 – Florin BALTARETU Chair: I. Kaldre		
9:40 – 10:40	Room Carmen: Basic MHD (30–18–106)	Room Halka: Elect. Proc. of mat (114–103–46)	
	Chair: A. Montisci	Chair: I. Kaldre	
10:40 – 11:00	Coffee Break		
11:00 – 12:00	Room Carmen: Elect. Proc. of mat (81–83–87)		
	Chair: A. Montisci		
12:00 – 14:00	Lunch		
14:00 – 14:40	Room Carmen: Keynote Speech 7 – Ivan SKORVANEK Chair: P. Zabinski		
14:40 – 15:40	Room Carmen: Elect. Proc. of mat (101–73–91)		
	Chair: P. Zabinski		
15:50 – 16:30	Room Carmen: Closing Ceremony		
17:00 – 18:00	COST Meeting		



## THE 12<sup>TH</sup> PAMIR INTERNATIONAL CONFERENCE ON FUNDAMENTAL AND APPLIED MHD



JULY 4-7, 2022

### LIST OF PAPERS

- ID4** Linear stability of ferrofluids in different configurations – **BRIGGS FERGUSON Sarah**
- ID5** Optimization of sensor configuration for contactless inductive flow tomography – **MITRA Rahul**
- ID6** Nonlinear laminar ‘Dynamos’ linear in one coordinate – **MESTEL Jonathan**
- ID8** Numerical study of species distribution and overpotentials in liquid metal batteries – **DUCZEK Carolina**
- ID9** COCONUT MHD coronal model as a basis for EUHFORIA2.0 space weather forecast – **KUZMA Blazej**
- ID10** Global and local flow effects during electrodeposition of nano-structured metal layers in a magnetic field – **MUTSCHKE Gerd**
- ID11** Experiments on bi-stability in rotating permanent magnet generated electrolyte flow in a ring-shaped container – **BERENIS Didzis**
- ID12** Neutron radiography of liquid drops ascending in a liquid metal – **LAPPAN Tobias**
- ID13** Experimental investigation of Na-Zn molten salt batteries – **WEBER Norbert**
- ID14** Comparison of contactless inductive flow tomography with ultrasound-doppler velocimetry in a large Rayleigh-Bénard convection cell – **SIEGER Max**
- ID15** Electrolyte convection in liquid metal batteries – **WEBER Norbert**
- ID16** Onset of instability in the magnetohydrodynamic pipe flow subject to a transverse magnetic field – **VELIZHANINA Yelyzaveta**
- ID17** Numerical and theoretical framework for the DRESDYN precession dynamo experiment – **PIZZI Federico**
- ID18** Numerical simulation of liquid metal MHD flow in a rectangular duct – **TIGRINE Zahia**
- ID19** A self-consistent planetary synchronization model of short-, medium-, and long-term cycles of the solar dynamo – **STEFANI Frank**
- ID20** Theory on tidally forced Rossby waves in solar-like stars - **HORSTMANN Gerrit**
- ID22** Alfvén wave experiments with liquid rubidium in a pulsed magnetic field – **GUNDRUM Thomas**
- ID23** Optimization of the method for recycling cadmium- containing waste with the help of electromagnetic stirrer – **BREKIS Artūrs**
- ID25** Numerical and experimental study of electrovortex flow in direct current electrical arc furnace with bottom electrodes of complicated geometry – **JAKOVICS Andris**

**ID26** Electromagnetic pumps with rotating permanent magnets inlet pressure influence on pressure– flow rate curves – **KRAVALIS Kalvis**

**ID27** Near-wall MHD turbulence: investigation of a spanwise magnet array configuration – **CAPOGNA Amandine**

**ID28** Proof of concept for controlling an electromagnetic brake using contactless inductive flow tomography – **WONDRAK Thomas**

**ID29** Electrical insulation of PbLi MHD flow in a strong magnetic field by use of SiC flow channel inserts – **BREKIS Artūrs**

**ID30** The effect of the nutation angle on the flow in a precessing cylinder: experimental results – **KUMAR Vivaswat**

**ID31** Directional solidification of aluminum alloys under combined DC/AC electromagnetic interaction – **NIKOLUSKINS Raimonds**

**ID33** Modeling of inductively heated floating zone process including free surface shape using OpenFOAM – **TSIAPKINIS Iason**

**ID34** Bubble dispersion in liquid metal by electromagnetic stirring – **BARANOVSKIS Reinis**

**ID36** Swirling electrolyte flow in a cylindrical cavity under axial current and magnetic field: experimental and numerical study – **MARÍN-NÚÑEZ MaríaDalia**

**ID37** Electromagnetic stirring of viscoelastic conducting fluids – **OLVERA Jose**

**ID38** Numerical characterization of liquid metal MHD flow in co-axial rectangular manifolds – **TASSONE Alessandro**

**ID40** Axisymmetric MHD viscous flow about a slip solid sphere translating parallel with a uniform ambient magnetic field – **SELLIER Antoine**

**ID41** Simulation of direct strip casting with electromagnetic flow control – **DZELME Valters**

**ID42** Analysis of the symmetry of three-dimensional silicon melts flow generated by a Bitter traveling magnetic field in a cylindrical crucible – **HIBA Brahim**

**ID43** Alfvén waves excitation at low magnetic Reynold number – **LALLOZ Samy**

**ID44** Atomisation of a capillary jet using a stacked-type electrofluidic actuator – **LALLOZ Samy**

**ID46** Numerical modeling of a benchmark experiment of Sn-10wt.%Pb alloy solidification under forced convection driven by an alternative electromagnetic stirring – **ABDELHAKEM Abdelhafidh**

**ID47** Nonlinear simulations of magnetorotational instability: scaling properties and their importance in upcoming DRESDYN-MRI experiment – **MISHRA Ashish**

**ID49** Linear self-modelling electrovortex flow between two cylinders – **MIKHAILOV Evgeny**

**ID50** From helical to standard magnetorotational instability: predictions for upcoming liquid sodium experiments – **MAMATSASHVILI George**

**ID51** Rotating waves arising from the instability of magnetized spherical Couette flows – **OGBONNA Jude**

**ID52** Heat transfer enhancement using magnetic fins in liquid metal flows in ducts – **CUEVAS Sergio**

**ID53** Numerical study of semi-solid metal slurry stirring in a cylindrical crucible by a rotating permanent magnet – **KRASTINS Ivars**

**ID54** Continuous casting of slabs under the impact of combined static magnetic fields: a numerical study – **BAHAREH Najafian Ashrafi**

**ID55** Crucible considerations in induction furnace degassing – **PETRYKOWSKI John**

**ID57** Electromagnetic synchronization of a Rayleigh-Bénard flow – **JUESTEL Peter**

**ID61** Magnetohydrodynamic flow in stepwise bent circular pipes – **BUHLER Leo**

**ID62** Synthesis of conical Co–Fe alloys structures by one- and two-step methods in superimposed magnetic field – **SKIBINSKA Katarzyna**

**ID63** Dynamic mode decomposition of bubble shape perturbations and flow velocity and vorticity fields for MHD bubble chain flow – **KLEVS Martins**

**ID65** A liquid metal MHD vortex generator model for energy harvesting applications – **AVALOS ZUNIGA Raul Alejandro**

**ID66** A sound-fired liquid metal MHD Disk Generator – **MONTISCI Augusto**

**ID67** A static decay heat removal system based on a thermoacoustic MHD electrical generator – **MONTISCI Augusto**

**ID68** Flow of a conducting fluid around a cylinder at high magnetic Reynolds number – **MONTISCI Augusto**

**ID73** Influence of flow on heat transfer under different current modulation with electromagnetic levitation – **PONS Romain**

**ID74** Acceleration of antigen-antibody recognition by AC electrothermal flow in a microchannel – **DAVOUST Laurent**

**ID75** Performance of waste-fired zero emissions integrated gasification thermoacoustic magnetohydrodynamic (ZE-IGTM) power plant – **RASHID Aiman**

**ID76** Small-scale magnetic field generation in MHD shell model – **ABUSHZADE Ilyas**

**ID81** Analysis of the kinetics of transport of selected rare earth ions at the liquid-liquid interface in the presence of a magnetic field gradient – **WOJTASZEK Konrad**

**ID82** Local Anisotropy in the Kazantsev model – **ALLAHVERDIYEV Ramin**

**ID83** Adsorption of rare earth ions on magnetically modified activated carbon – **KOLCZYK-SIEDLECKA Karolina**

**ID86** Eddy-Current flowmeter response to spherical non-conductive inclusions travelling in liquid metal – **AFFLARD Antoine**

**ID87** Preliminary investigation of an induction melting process for Niobium-based alloys in cold wall crucible furnace – **GUGLIELMI Mattia**

**ID91** The change of magnetic properties of fluids based on liquid crystals doped with magnetic particles – **TOMASOVICOVA Natalia**

**ID93** Experimental validation of liquid metal MHD numerical models – **JAKOVIČS Andris**

**ID94** Induction melting in cold crucible furnace applied to innovative high-melting temperature metals – **GUGLIELMI Mattia**

**ID95** The importance of magnetoconvection with anisotropic diffusivities for a better understanding of the Earth's core MHD – **FILIPPI Enrico**

**ID101** Magnetically-tailored Ni nanowires obtained in one-step wet chemical reduction – **KUTYLA Dawid**

**ID102** 2022-year experiments at Riga dynamo facility – **LIPSBERGS Guntis**

**ID103** Innovative cold crucible for single crystal growth – **ZAIDAT Kader**

**ID104** Investment castings with unique levitation melting technology - FASTCAST – **SPITANS Sergejs**

**ID106** Interaction between hydrodynamic field and suspended solid particles in Taylor-Couette-Poiseuille Flow system – **LAGHOUATI Yassine**

**ID107** Optimization of the efficiency in an MHD generator channel coupled to a thermoacoustic tube – **LAGHOUATI Yassine**

**ID108** Swirling electrovortical flows – **KHARICHA Abdellah**

**ID109** Effect of various magnetic permeabilities on the fluid flow velocity around circular cylinder under an external applied magnetic field – **AISSA Mohammed**

**ID110** The experimental research of level fluctuation of GaInSn alloy in permanent magnets controlling mold – **HAN Zefeng**

**ID111** Liquid metal flow adhering to curved meter-sized walls and ceilings by electromagnetic and centrifugal forces – **BAKER Nathaniel**

**ID113** Analysis of turbulence generated by an Electro vortex Flow – **AL-NASSER Mohamad**

**ID114** The effect of forced convection driven by traveling magnetic field on the solidification of Sn-10wt.%Pb alloy: numerical simulation and experimental analysis – **KHELFI Safia**

**ID115** Electrohydrodynamic thrusters for air drag reduction – **VOLODIN Juri**

**ID116** Effect of aspect ratio on steady liquid metal heat transfer through the electrically-insulating MHD Graetz channel – **BOUABDALLAH Ahcene**

**ID117** High Field and High Flux Magnets for MHD and MagnetoScience – **BEAUGNON Eric**