

# The Talk Schedule MHD-PP 2021

Tuesday, October 12

## Session I. Numerical Methods for Hydrodynamics Equations & Poisson Solvers

Novosibirsk	Moscow	Vienna	New York	Talk
Time	Time	Time	Time	
15:00	11:00	10:00	04:00	<b>Feodoritova O.B., Zhukov V.T.</b> An explicit scheme for 3D multicomponent heat-conducting flow simulation ( <b>INVITED</b> )
15:30	11:30	10:30	04:30	<b>Feodoritova O.B., Zhukov V.T.</b> A numerical method for conjugate heat-transfer problem in multicomponent flows ( <b>INVITED</b> )
16:00	12:00	11:00	05:00	<b>Levina G.V.</b> Turbulent vortex dynamo in the Earth's atmosphere and the emerging opportunity to affect tropical cyclogenesis ( <b>INVITED</b> )
16:30	12:30	11:30	05:30	<b>Botchev M.A., Zhukov V.T.</b> Solving anisotropic heat equations by exponential shift-and-invert Krylov subspace methods ( <b>INVITED</b> )
17:00	13:00	12:00	06:00	<b>Discussion</b>
17:30	13:30	12:30	06:30	<b>Kondratyev I., Moiseenko S.</b> A semi-implicit unstructured operator-difference scheme for three-dimensional self-gravitating flows ( <b>INVITED</b> )
18:00	14:00	13:00	07:00	<b>Gatsuk V.K., Lukin V.V.</b> Mixed characteristic discontinuous Galerkin approach for perfect gas dynamics modeling ( <b>INVITED</b> )
18:30	14:30	13:30	07:30	<b>Romanenko A., Snytnikov A., Lemaire Th., Masson P.</b> Monte Carlo Collision method for Particle-In-Cell plasma simulation: PyTorch implementation ( <b>INVITED</b> )
19:00	15:00	14:00	08:00	<b>Kulikov I.</b> The collapse from molecular cloud to stellar density: moving geodesic meshes vs. unstructured tetrahedron meshes vs. nested grids
19:30	15:30	14:30	08:30	<b>Discussion</b>
20:00	16:00	15:00	09:00	<b>Lukin V.V., Korchagova V.N., Sautkina S.M.</b> Stable Runge - Kutta methods for application of discontinuous Galerkin algorithm to hyperbolic equations systems
20:30	16:30	15:30	09:30	<b>Tarasov N., Karamzin Y., Kudryashova T., Podryga V., Polyakov S.</b> Computer modeling of air flows purification using sorption filters
21:00	17:00	16:00	10:00	<b>Karavaev D., Kulikov I.</b> Using WENO reconstruction to construct low-dissipation Godunov solver
21:30	17:30	16:30	10:30	<b>Discussion</b>

Wednesday, October 13

Session II. Numerical Modeling in Astrophysics

Novosibirsk	Moscow	Vienna	New York	Talk
Time	Time	Time	Time	
17:00	13:00	12:00	06:00	Toropina O.D., Bisnovatyi-Kogan G.S., Moiseenko S.G. MHD Simulation of Magnetized Laboratory Jets ( <b>INVITED</b> )
17:30	13:30	12:30	06:30	Godenko E.A., Izmodenov V.V. Modelling of the interstellar dust distribution under the influence of the interstellar magnetic field ( <b>INVITED</b> )
18:00	14:00	13:00	07:00	Kulikov I., Chernykh I., Boronina M. On a simple verification test of codes for modelling of magnetohydrodynamic turbulence
18:30	14:30	13:30	07:30	<b>Discussion</b>
19:00	15:00	14:00	08:00	Rybakin B., Goryachev V. Influence of the rotation of colliding molecular clouds on the structure of the forming protostellar systems ( <b>INVITED</b> )
19:30	15:30	14:30	08:30	Titova A., Izmodenov V., Korolkov S. Effects of radiative energy losses on the structure of stellar wind interaction with interstellar medium ( <b>INVITED</b> )
20:00	16:00	15:00	09:00	Kulikov I., Chernykh I., Karavaev D., Tutukov A. The Numerical Simulation of the Shock Detonation of White Dwarfs
20:30	16:30	15:30	09:30	<b>Discussion</b>
21:00	17:00	16:00	10:00	Mac Low M.-M. The Small Scale Dynamo in the Interstellar Medium ( <b>INVITED</b> )
21:30	17:30	16:30	10:30	Sarkar S., Chattopadhyay I., Singh K. Novel methodology to obtain solutions around magnetised stars ( <b>INVITED</b> )
22:00	18:00	17:00	11:00	Danehkar A., Oey M., Gray W. Non-equilibrium Photoionization and Hydrodynamic Simulations of Starburst-driven Outflows
22:30	18:30	17:30	11:30	Banda-Barragán W. Thermodynamics of dense gas in radiative magnetised winds
23:00	19:00	18:00	12:00	<b>Discussion</b>

Thursday, October 14

Session III. Numerical Modeling in Physics of Plasma

Novosibirsk	Moscow	Vienna	New York	Talk
Time	Time	Time	Time	
15:00	11:00	10:00	04:00	Kozlov A.N., Bakhtin V.A., Gutorov K.M., Klimov N.S., Konovalov V.S., Kovalenko D.V., Novikova S.O., Podkovyrov V.L., Taiurskii A.A., Urlova R.V., Yaroshevskaya A.D. Numerical simulation of plasma flow acceleration modes ( <b>INVITED</b> )
15:30	11:30	10:30	04:30	Brushlinskii K.V., Stepin E.V. On equilibrium magnetoplasma configurations in «Galatea-Belt» magnetic traps ( <b>INVITED</b> )
16:00	12:00	11:00	05:00	Lazareva G. Parallel Algorithm for Calculating the Dynamics of the Electron Beam Current Distribution ( <b>INVITED</b> )
16:30	12:30	11:30	05:30	Gavrikov M.B., Taiurskii A.A. Hybrid model of stationary plasma thruster ( <b>INVITED</b> )
17:00	13:00	12:00	06:00	Discussion
17:30	13:30	12:30	06:30	Lazareva G.G., Romanenko A.A., Snytnikov A.V. GPU Simulation of Electron Beam Current Distribution during Pulsed Heating of a Metal Target ( <b>INVITED</b> )
18:00	14:00	13:00	07:00	Berendeev E.A., Timofeev I.V., Volchok E.P., Annenkov V.V. Excitation of profiled plasma wakes by a couple of co-propagating laser pulses as a method of generating high-power THz radiation ( <b>INVITED</b> )
18:30	14:30	13:30	07:30	Chernoshtanov I.S., Efimova A.A., Soloviev A.A., Vshivkov V.A. Null collision Monte Carlo simulation model for particle-in-cell method ( <b>INVITED</b> )
19:00	15:00	14:00	08:00	Discussion
19:30	15:30	14:30	08:30	Vshivkov K.V., Vshivkova L.V., Efimova E.A., Voropaeva E.S., Dudnikova G.I. Algorithms of motion in the particle-in-cell method ( <b>INVITED</b> )
20:00	16:00	15:00	09:00	Boronina M.A., Chernykh I.G., Dudnikova G.I., Genrikh E.A., Vshivkov V.A. Mathematical modelling of beam dynamics in diamagnetic confinement regime of open trap
20:30	16:30	15:30	09:30	Maksimova A.G., Lazareva G.G. Parallel Algorithm for Calculating the Dynamics of Tungsten Vapor Distribution
21:00	17:00	16:00	10:00	Dudnikova G., Vshivkov V. 3D numerical simulation of ribbon electron beam bending by relativistic proton bunch ( <b>INVITED</b> )
21:30	17:30	16:30	10:30	Kulikov I.M. Workshop review talk
22:00	18:00	17:00	11:00	Discussion