

The Talk Schedule MHD-PP 2020

Monday, October 12

Session I. Numerical Methods for Hydrodynamics Equations & Poisson Solvers

Novosibirsk Time	Moscow Time	Vienna Time	New York Time	Talk
15:00	11:00	10:00	04:00	Feodoritova O.B., Zhukov V.T. Parallel multigrid method on block-structured grids (INVITED)
15:30	11:30	10:30	04:30	Moiseenko S.G., Ardelyan N.V. Conservative grid remapping for triangular Lagrangian (INVITED)
16:00	12:00	11:00	05:00	Balashov V.A., Savenkov E.B. Direct fluid flow simulation at pore scale with regularized hydrodynamic equations (INVITED)
16:30	12:30	11:30	05:30	Kulikov I., Vorobyov E., Chernykh I., Elbakyan V. Usage of geodesic mesh for numerical modeling of hydrodynamic processes in spherical systems
17:00	13:00	12:00	06:00	Discussion

Tuesday, October 13

Session II. Hydrodynamic simulation in Earth physics

Novosibirsk Time	Moscow Time	Vienna Time	New York Time	Talk
15:00	11:00	10:00	04:00	Gavrikov M.B., Taiurskii A.A. A Theoretical Model of Powerful Tornadoes in the Atmosphere (INVITED)
15:30	11:30	10:30	04:30	Levina G.V. Birth of a hurricane: early detection of large-scale vortex instability (INVITED)
16:00	12:00	11:00	05:00	Stoyanovskaya O.P., Kusnatdinov T.R., Suslenkova A.N. Computing the aerodynamic drag of fractal aggregates in free-molecular and transition regimes
16:30	12:30	11:30	05:30	Discussion

Wednesday, October 14

Session III. Numerical Methods for Hydrodynamics Equations

Novosibirsk	Moscow	Vienna	New York	Talk
Time	Time	Time	Time	
15:00	11:00	10:00	04:00	Menshov I., Pavlukhin P. GPU-Native Gas Dynamics Solver on Octree-Based AMR Grids (INVITED)
15:30	11:30	10:30	04:30	Borisov V.E., Davydov A.A., Konstantonovskaya T.V., Lutsky A.E. Vortex structure identification for supersonic flows (INVITED)
16:00	12:00	11:00	05:00	Kulikov I., Chernykh I., Karavaev D., Sapetina A., Prigarin V., Protasov V., Ulyanichev I. The parallel & distributed code for numerical simulation of relativistic MHD simulation
16:30	12:30	11:30	05:30	Discussion

Session IV. Numerical Modeling in Astrophysics

Novosibirsk	Moscow	Vienna	New York	Talk
Time	Time	Time	Time	
17:00	13:00	12:00	06:00	Izmodenov V. TBA (INVITED)
17:30	13:30	12:30	06:30	Rybakin B., Goryachev V. Numerical modeling of molecular cloud reshaping and compressed clumps nucleation in collisions (INVITED)
18:00	14:00	13:00	07:00	Sarkar S., Chattopadhyay I. Pair production and annihilation in advective accretion discs around black holes
18:30	14:30	13:30	07:30	Discussion
19:00	15:00	14:00	08:00	Lukin V.V. Mathematical modeling of inclined accretion disks in cataclysmic variables (INVITED)
19:30	15:30	14:30	08:30	Makarenko E.I., Walch S., Clarke S.D., Seifried D. Radiative feedback in molecular clouds from cooling supernova shock waves in the MHD simulations (INVITED)
20:00	16:00	15:00	09:00	Gornova A., Kulikov I., Chernykh I. The Numerical Modeling of Instability and Shock Waves in Gas Cloud by means Supercomputers
20:30	16:30	15:30	09:30	Discussion

Thursday, October 15

Session V. High Performance Computing in Physics of Plasma

Novosibirsk	Moscow	Vienna	New York	Talk
Time	Time	Time	Time	
15:00	11:00	10:00	04:00	Volokitin V., Bastrakov S., Bashinov A., Efimenko E., Muraviev A., Gonoskov A., Meyerov I. Optimized routines for event generators in QED-PIC codes (INVITED)
15:30	11:30	10:30	04:30	Sladkov A., Smets R., Korzhimanov A. Three-dimensional hybrid numerical tool for collisionless plasma modeling (INVITED)
16:00	12:00	11:00	05:00	Snytnikov A.V., Boronina M.A., Romanenko A.A. Cross-platform implementation of particle-in-cell method for simulation of high-temperature and fusion plasma by means of hybrid supercomputers equipped with GPU or Intel Xeon Phi accelerators (INVITED)
16:30	12:30	11:30	05:30	Discussion

Session VI. Numerical Modeling in Physics of Plasma

Novosibirsk	Moscow	Vienna	New York	Talk
Time	Time	Time	Time	
17:00	13:00	12:00	06:00	Brushlinskii K.V., Stepin E.V. Plasma equilibrium and stability in a current-carrying conductor vicinity (INVITED)
17:30	13:30	12:30	06:30	Belyaeva Yu.O., Skubachevskii A.L. Characteristics of the Vlasov equations in an infinite cylinder (INVITED)
18:00	14:00	13:00	07:00	Popruzhenko S.V., Liseykina T.V. Nonstationary nonradiating states of laser-plasma (INVITED)
18:30	14:30	13:30	07:30	Korolkov S., Alexashov D., Izmodenov V. Numerical modeling of the convective Kelvin-Helmholtz instabilities of astropauses
19:00	15:00	14:00	08:00	Discussion

Friday, October 16

Session VII. 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. Influence of the distance between coils with current on the effect of cascade plasma heating in flows injected from the QSPA (INVITED)
15:30	11:30	10:30	04:30	Vshivkov V.A., Boronina M.A., Dudnikova G.I., Efimova A.A., Genrikh E.A., Sudakov A.M. Application of 2D hybrid model for simulation of plasma confinement in open magnetic trap (INVITED)
16:00	12:00	11:00	05:00	Dudnikova G., Efimova A., Vshivkov K. 3D numerical model of diamagnetic plasma confinement in an open gasdynamic trap (INVITED)
16:30	12:30	11:30	05:30	Boronina M.A., Dudnikova G.I., Efimova A.A., Genrikh E.A., Vshivkov V.A., Chernoshtanov I.S. Numerical study of diamagnetic regime in open magnetic trap
17:00	13:00	12:00	06:00	Boronina M.A., Chernykh I.G., Genrikh E.A., Vshivkov V.A. Performance improvement of particle-in-cell method for numerical modelling of open magnetic system
17:30	13:30	12:30	06:30	Discussion

Session VIII. High Performance Computing in Astrophysics & Physics of Plasma

Novosibirsk	Moscow	Vienna	New York	Talk
Time	Time	Time	Time	
18:00	14:00	13:00	07:00	Lazareva G.G. The tungsten vapor propagation under pulsed heat load (INVITED)
18:30	14:30	13:30	07:30	Glinskiy B.M., Sapetina A.F., Kulikov I.M., Zagorulko G.B. Content of ontology for solving compute-intensive problems of the cosmic plasma hydrodynamics (INVITED)
19:00	15:00	14:00	08:00	Snytnikov A.V., Zagorulko G.B., Zagorulko Yu.A., Glinskiy B.M. Ontological approach to formalization of knowledge in computational plasma physics
19:30	15:30	14:30	08:30	Kulikov I.M. Workshop review talk
20:00	16:00	15:00	09:00	Discussion