

HED at FAIR Annual Meeting

Tuesday, June 4th (*Intourist Kolomenskoye Hotel*)

18:00–20:00 Registration & Welcome party

Wednesday, June 5th (*Intourist Kolomenskoye Hotel*)

8:45–9:15 Registration

9:15–9:30 Welcome address (acting director LaPlas A.P.Kuznetsov, academician V.E.Fortov)

9:30–11:10 Introduction Session – Chair: Victor Mintsev

- **Status of FAIR project (15' + 5')**
 - Alexander Golubev, NRC "Kurchatov Institute" – ITEP, Russia
- **High Energy Density Physics Experiments at FAIR (15' + 5')**
 - Stephan Neff, FAIR/GSI, Germany
- **Experimental facility for HED@FAIR (15' + 5')**
 - Abel Blazevic, GSI, Germany
- **The need for a high-energy short laser capability for HED@FAIR (15' + 5')**
 - Vincent Bagnoud, GSI, Germany
- **Problems of supernova bounce modelled in numerical simulation and in laboratory experiment (20' + 5')**
 - Sergei Blinnikov, NRC "Kurchatov institute" – ITEP, Russia

11:10–11:30

Coffee Break

11:30–13:30 HIHEX – Chair: Paul Neumayer

- **High-Energy Laser Beamline at the HHT-cave at GSI (15' + 5')**
 - Zsuzsanna Major, GSI/Hi Jena, Germany
- **Perspectives for novel research of HED matter properties at FAIR (15' + 5')**
 - Vadim Kim, IPCP RAS, Russia
- **Stimulated Mach configuration generated by intense heavy ion beam as a scheme for investigation of high energy density matter (15' + 5')**
 - Alexander Shutov, IPCP RAS, Russia
- **ITEP's activity at HED@FAIR collaboration (15' + 5')**
 - Alexey Kantsyrev, NRC "Kurchatov Institute" – ITEP, Russia
- **On perspectives of HED@FAIR experimental study of non-standard unexplored WDM phase transitions (15' + 5')**
 - Igor Iosilevskiy, Joint Institute for High Temperature RAS, Russia
- **Status of HED&FAIR Superconducting Quadrupoles (15'+ 5')**
 - Maksim Stoliarov, NRC "Kurchatov Institute" - IHEP, Russia

13:30–14:30

Lunch Break

14:30–16:30 PRIOR – Chair: Abel Blazevic

- **Proton radiography at high dynamic pressures (15' + 5')**
 - Victor Mintsev, IPCP RAS, Russia
- **Study of explosively driven phase transitions in molecular liquids by proton radiography (15' + 5')**
 - Dmitry Nikolaev, IPCP RAS, Russia
- **Proton radiography for investigation of equation of state of shock-compressed non-ideal plasma (15' + 5')**
 - Nikolay Shilkin, IPCP RAS, Russia
- **Density reconstruction in proton radiography experiments with shock compressed gases (15' + 5')**
 - Dmitry Kolesnikov, NRC "Kurchatov Institute" – ITEP, Russia
- **Explosive generator of xenon non-ideal plasma for proton radiography (15' + 5')**
 - Denis Yuriev, IPCP RAS, Russia
- **Possible application of proton radiography method for investigations of dynamic fracture of condensed matter (15' + 5')**
 - Sergey Razorenov, IPCP RAS, Russia

16:30–16:50

Coffee break

16:50–18:50 PRIOR– Chair: Alexey Kantsyrev

- **Development of ion-optical schemes of proton microscopes (10' + 5')**
 - Anton Bogdanov, NRC "Kurchatov institute" – ITEP, Russia
- **Shock wave compressibility of composite materials based on aramid fibers for experiments at PRIOR (10' + 5')**
 - Valentina Mochalova, IPCP RAS, Russia
- **Shock wave compression of silicon nitride porous samples (10' + 5')**
 - V. Yakushev, IPCP RAS, Russia
- **Equation of state and electrical resistivity measurements on fluid metals and dense plasmas (10' + 5')**
 - Arsenyi Kondratyev, JIHT RAS, Russia
- **Hard X-ray and Proton Radiography of Underwater Electrical Wire Explosion (10' + 5')**
 - Alexander Müller-Münster, University of Frankfurt, Germany
- **Characterization of a DBD plasma in dependence of its supply parameters for surface modification (10' + 5')**
 - Kristina Zerbe, University of Frankfurt, Germany
- **Tomographic reconstruction at proton radiography (10'+ 5')**
 - Vsevolod Panyushkin, NRC "Kurchatov institute" – ITEP, Russia
- **Residual dose rate estimate for PRIOR experiment at HHT (10'+5')**
 - Vasiliy Volkov, NRC "Kurchatov institute" – ITEP, Russia

19:00–21:00

Collaboration Board meeting

Thursday, June 6th *(Intourist Kolomenskoye Hotel)*

9:30–11:05 HIHEX Diagnostics – Chair: Stephan Neff

- **Nanosecond laser driven x-ray backlighter for diagnostic applications at the HHT-cave (15' + 5')**
 - Paul Neumayer, GSI, Germany
- **XCOT-system for Imaging of the Heavy Ion Beam Intensity Distribution on Target in Phase-0 and at FAIR (10' + 5')**
 - Sero Zähler, University of Frankfurt, Germany
- **Numerical simulation of XCOT diagnostic of the heavy ion beam for upcoming HIHEX experiment (10' + 5')**
 - Aleksei Skobliakov, NRC "Kurchatov institute" – ITEP, Russia
- **WDM temperature measurements by spectral pyrometry (10' + 5')**
 - Roman Belikov, JIHT RAS, Russia
- **Line-imaging VISAR for shock processes investigation in matter under the influence of intense laser pulses (10' + 5')**
 - Andrey Mikhaylyuk, National Research Nuclear University MEPhI, Russia
- **High dynamic range, large temporal domain laser pulse measurement (10' + 5')**
 - Victor Schanz, GSI, Germany

11:05–11:25

Coffee Break

11:25–13:05 Laser Plasma Interactions – Chair: Vincent Bagnoud

- **Laser-plasma effects influence on HEDP experiment (15' + 5')**
 - Semen Glazyrin, FSUE VNIIA, Russia
- **Characterization of Electrons from Relativistic Laser-Produced Plasmas by means of Thermoluminescence Detector-based 10-channel Spectrometer (15' + 5')**
 - Nadiya Zahn, University of Frankfurt, Germany
- **Electron and gamma beam production from tailored relativistic laser solid interaction (15' + 5')**
 - Andrei Savel'ev, Lomonosov Moscow State University, Russia
- **Simulation of hard X-ray generation by hot electrons in silver targets (15' + 5')**
 - Oleg Kostenko, JIHT RAS, Russia
- **Estimation of the preplasma scale length via time-resolved spectroscopy of back-reflected light (15' + 5')**
 - Johannes Hornung, GSI/Hi Jena, Germany

13:05 –14:00

Lunch Break

14:00–15:00 Diagnostics – Chair: Rui Cheng

- **Development of novel neutron detectors for laser-driven neutron applications (10' + 5')**

HED at FAIR Annual Meeting, Moscow, Russia, June 5th to 7th, 2019

- Annika Kleinschmidt, GSI/Hi Jena, Germany
- ***The observation of plasma lens with discharge initiation by the electron beam (10' + 5')***
 - Irog Roudskoy, NRC "Kurchatov institute" – ITEP, Russia
- ***Laser interferometry for measurements of electron density and degree of ionization in a hydrogen plasma target (10' + 5')***
 - Aiush Khurchiev, NRC "Kurchatov Institute" – ITEP, Russia

15:00–17:00 Tour to MEPHI

17:00 Transfer to Conference Dinner

Friday, June 7th *(Intourist Kolomenskoye Hotel)*

9:30–11:10 Theory, modelling and simulation – Chair: Igor Iosilevskiy

- ***Magneto-Rayleigh-Taylor instability in an accelerated elastic slab (15' + 5')***
 - Antonio R. Piriz, University of Castilla-La Mancha, Spain
- ***The simulations of strong radiative shocks (15' + 5')***
 - Egor Urvachev, NRC "Kurchatov institute" – ITEP, Russia
- ***On calculation of dynamic conductivity of metallic and classical plasmas by non-equilibrium statistical operator method (15' + 5')***
 - Mikhail Veysman, JIHT RAS, Russia
- ***Phase space path integral simulations of momentum distribution functions and thermodynamics of quantum Coulomb systems (15' + 5')***
 - Alexander Larkin, JIHT RAS, Russia
- ***Momentum distribution function in quark--gluon plasma (15' + 5')***
 - Vladimir Filinov, JIHT RAS, Russia

11:10–11:30

Coffee Break

11:30–13:10 Beam matter interaction – Chair: Alexander Golubev

- ***X-ray radiative properties of high-energy solid-density laser plasma (20' + 5')***
 - Sergey Pikuz, National Research Nuclear University MEPhI, Russia
- ***Stopping power measurement for 100 keV/u Fe ions in hydrogen plasma (10' + 5')***
 - Roman Gavrilin, NRC "Kurchatov institute" – ITEP, Russia
- ***Depth resolved chemical activation and etching of swift heavy ion tracks in olivine (10' + 5')***
 - Sergey Gorbunov, P.N.Lebedev Physical Institute RAS, Russia
- ***Structure transformations along swift heavy ion trajectory in olivine (10' + 5')***
 - Alexander Volkov, NRC "Kurchatov institute", Russia
- ***Atomic and electronic properties of Al₂O₃ and diamond under intense excitation of the electronic system (10' + 5')***
 - Roman Voronkov, P.N.Lebedev Physical Institute RAS, Russia
- ***Recrystallization role in ion track formation in dielectrics (10' + 5')***
 - Ruslan Rymzhanov, JINR, Russia

13.10-14.00 Conclusion and Remarks