



Conference Program, March 1, 2015

Opening Ceremony 16:00

Introductory words by V.E.Fortov, V.P.Efremov, A.P.Savintsev, K.V.Khishchenko

Chairman

Prof. G.V.Shpatakovskaya

16:20 On correlation and quantum effects in strongly coupled plasmas (plenary)
Fortov Vladimir Evgenievich (JIHT RAS, Moscow, Russia)

17:05  **CONFERENCE PHOTO (OUTSIDE)**



COFFEE-BREAK

Chairman

Prof. N.E.Andreev

17:30 Intense particle beams and high energy densities physics
Mintsev Victor Borisovich (IPCP RAS, Chernogolovka, Russia)

17:45 The behavior of metals under ultrafast loads driven by femtosecond laser
Ashitkov Sergey Igorevich (JIHT RAS, Moscow, Russia), Komarov P. S., Agranat M. B., Kanel G. I.

18:00 Investigation of the spall strength of graphite in stresses produced by nano- and picosecond laser actions
Krasyuk I. K., Semenov A. Yu., Stuchebryukhov I. A., Belikov R. S., Khishchenko Konstantin Vladimirovich (JIHT RAS, Moscow, Russia), Rosmej O. N., Rienecker T., Schoenlein A., Tomut M.

18:15 Ablation of tantalum irradiated by femtosecond laser pulses
Struleva Evgeniya Vyacheslavovna (JIHT RAS, Moscow, Russia), Ashitkov S. I., Komarov P. S., Ovchinnikov A. V., Agranat M. B.

18:30 Development of high power terahertz facility
Chefonov Oleg Vladimirovich (JIHT RAS, Moscow, Russia), Ovchinnikov A. V., Ashitkov S. I., Agranat M. B., Vicario C., Hauri C. P.

18:45 Thin 10–100 nm film in contact with substrate: dynamics after femtosecond irradiation
Khokhlov V. A., Inogamov N. A., Zhakhovsky V. V., Shepelev Vadim Vladimirovich (ICAD RAS, Moscow, Russia), Ilitsky D. K.

19:00  **SUPPER**

Chairman

Dr. K.V.Khishchenko

20:00 Implementation of nucleation model into hydrocode for simulation of laser ablation
Povarnitsyn Mikhail Evgenievich (JIHT RAS, Moscow, Russia), Fokin V. B., Levashov P. R., Khishchenko K. V.

20:15 Continual atomistic simulation of metal targets irradiated by femtosecond double-pulses
Fokin Vladimir Borisovich (JIHT RAS, Moscow, Russia), Povarnitsyn M. E., Levashov P. R.

20:30 Atomistic simulation of surface modification by laser pulse: comparison of models with various scales
Starikov Sergey Valerievich (JIHT RAS, Moscow, Russia), Pisarev V. V.

21:00 3D PIC modeling of ion acceleration from a thin plasma layer with overcritical density under the action of short intense laser pulse. Convergence of results depending on the computational parameters
Pugachev Leonid Petrovich (JIHT RAS, Moscow, Russia), Levashov P. R., Andreev N. E.

21:15  **COFFEE-BREAK**

- 21:15 Parametric waves excitation in relativistic laser–plasma interactions for electron acceleration
Shulyapov Sergey Anatol'evich (MSU, ILC, Moscow, Russia), Ivanov K. A., Tsymbalov I. N., Krestovskih D. A., Savel'ev A. B., Ksenofontov P. A., Brantov A. V., Bychenkov V. Yu.
- 21:45 Warm solid matter isochorically heated by laser-generated relativistic electrons
Pikuz Sergey Alexeevich (JIHT RAS, Moscow, Russia), Neumayer P., Rosmej O. N., Antonelli L., Bagnoud V., Boutoux G., Faenov A. Ya., Giuffrida L., Hansen S. B., Khaghani D., Li K., Santos J. J., Sauterey A., Schoenlein A., Skobelev I. Yu., Zielbauer B., Batani D.
- 22:00 The THz scanning for the measurement of the density change in strained foams
Prokhorov Alexander Evgenievich (ICMM UB RAS, Perm, Russia), Vshivkov A. N., Kostina A. A., Plekhov O. A., Khemis S. B., Caumes J. P., Batsale J. C.
- 22:15 Development of permanent magnet quadrupole lenses for proton microscopy experimental facilities
Panyushkin Vsevolod Alekseevich (SSC RF ITEP, Moscow, Russia), Kantsyrev A. V., Bogdanov A. V., Skachkov V. S., Golubev A. A., Varentsov D., Lang P. M., Rodionova M. E., Shestov L., Weyrich K.
- 22:30–
22:45 The method of calculation and optimization of the ion-optical scheme of the proton microscope
Bogdanov Anton Valentinovich (SSC RF ITEP, Moscow, Russia), Golubev A. A., Kantsyrev A. V., Turtikov V. I., Panyushkin V. A.

Conference Program, March 2, 2015

Oral Session 16:00

Chairman

Prof. A.V.Eremin

- 16:00 Shock response of magnesium single crystals at normal and elevated temperatures
Kanel Gennady Isaakovich (JIHT RAS, Moscow, Russia), Garkushin G. V., Savinykh A. S., Razorenov S. V., de Resseguier T., Proud W. G., Tyutin M. R.
- 16:15 Halide based shock-wave treatment of fluid-rich natural phases
Schlothauer Thomas (TUBAF, Freiberg, Germany), Schimpf C., Brendler E., Keller K., Heide G., Kroke E.
- 16:30 Electrical conductivity and thermophysical properties of lithium hydride and lithium deuteride in the megabar shock pressure range
Shakhray Denis Vladimirovich (IPCP RAS, Chernogolovka, Russia), Golyshev A. A., Molodets A. M.
- 16:45 Multi-scale model of the dynamic fracture of molten and solid metals
Mayer Alexander Evgenievich (CSU, Chelyabinsk, Russia), Mayer P. N., Krasnikov V. S., Voronin D. S.
- 17:00 Propagation of shock waves and fracture in the composite: numerical simulation
Pogorelko Viktor Vladimirovich (CSU, Chelyabinsk, Russia), Mayer A. E.

17:15



COFFEE-BREAK

Chairman

Prof. G.I.Kanel

- 17:30 Numerical simulation of deformation and fracture of space protective shell structures from concrete and fiber concrete under shock-wave loading
Radchenko Pavel Andreevich (TSUAB, Tomsk, Russia), Batuev S. P., Radchenko A. V., Plevkov V. S.
- 17:45 Numerical simulation of $ZrO_2(Y_2O_3)$ ceramic plate penetration by cylindrical plunger
Kazarinov Nikita Andreevich (SPbSU, Saint-Petersburg, Russia), Bratov V. A., Petrov Y. V.
- 18:00 Detonation of mehanaoactivated composites of aluminium and ammonium perchlorate
Shevchenko Arseniy Andreevich (NRNU MEPhI, Moscow, Russia), Dolgoborodov A. Yu., Kirillenko V. G., Brazhnikov M. A.
- 18:15 Hydrodynamic instability at the interaction between sound and diffusion flame
Golub Victor Vladimirovich (JIHT RAS, Moscow, Russia), Krivokorytov M. S.
- 18:30 The role of radiant preheating of the fresh fuel in flame acceleration in different gaseous mixtures
Ivanov Mikhail Fedorovich (JIHT RAS, Moscow, Russia), Kiverin A. D.
- 18:45 Modes of chocked flame instability defined by the peculiarities of combustion kinetics at rising pressure
Kiverin Alexey Dmitrievich (JIHT RAS, Moscow, Russia), Yakovenko I. S.

19:00




SUPPER

Chairman

Prof. V.V.Golub

- 20:00 Numerical simulation as important tools in developing novel hypersonic technologies
Bocharov Aleksey Nikolaevich (JIHT RAS, Moscow, Russia), Balakirev B. A., Bituyurin V. A., Gryaznov V. K., Golovin N. N., Iosilevskiy I. L., Evstigneev N. M., Medin S. A., Naumov N. D., Petrovskiy V. P., Ryabkov O. I., Solomonov Yu. S., Tatarinov A. V., Teplyakov I. O., Tikhonov A. A., Fortov V. E.

- 20:15 Problems of heat shielding and plasma phenomena of hypersonic flying vehicles
Son Eduard Evgeievich (JIHT RAS, Moscow, Russia)
- 20:30 New energy-power equipments, chemical energy resources, and their applications at super-high-speed flying vehicles
Prudnikov Alexander Grigorievich (CIAM, Moscow, Russia)
- 20:45 Experimental investigations of hypersonic flying vehicles
Prokhorov Aleksandr Nikolaevich (CIAM, Moscow, Russia)
- 21:00 Numerical simulation of aerogasdynamics of a flight vehicle with a hypersonic liquid-fuel ramjet
Khlybov Vladimir Iliich (OAO "Makeyev GRTs", Miass, Russia), Degtiar V. G., Grakhov Yu. V., Lepikhov A. V., Kalashnikov S. T.
- 21:15 Simulation of 3D flows past hypersonic vehicles in FlowVision software
Aksenov Andrey Alexandrovich (JIHT RAS, Moscow, Russia), Savitsky D. V., Zhuktov S. V.
- 21:30 On the mechanisms of energy dissipation of galactic comets bombarding terrestrial planets
Barenbaum Azary Aleksandrovich (OGRI RAS, Moscow, Russia)
- 21:45–
22:00  **COFFEE-END**

Conference Program, March 3, 2015

Oral Session 16:00

Chairman

Prof. I.V.Lomonosov

- 16:00 Atomic number and temperature dependence of shell effects contribution in plasma characters
Shpatakovskaya Galina Vasilievna (KIAM RAS, Moscow, Russia), Karpov V. Ya.
- 16:15 Incommensurate host-guest structures in compressed elements: Hume–Rothery effects as origin
Degtyareva Valentina Feognievna (ISSP RAS, Chernogolovka, Russia)
- 16:30 On anomalous wave processes at direct and reverse quark–hadron phase transition
Konyukhov Andrey Viktorovich (JIHT RAS, Moscow, Russia), Likhachev A. P.
- 16:45 Anomalous thermodynamics of matter undergoing entropic phase transition
Iosilevskiy Igor L’vovich (JIHT RAS, Moscow, Russia)

17:00  **COFFEE-BREAK**

Chairman

Dr. P.R.Levashov

- 17:15 Equations of state of novel materials discovered from extreme conditions
Kurakevych Oleksandr (UPMC, Paris, France), Le Godec Y., Solozhenko V. L.
- 17:30 Equation of state of metallic plasma
Lomonosov Igor Vladimirovich (IPCP RAS, Chernogolovka, Russia)
- 17:45 The properties of the hexatic phase in two-dimensional Yukawa systems (numerical simulation)
Koss Xeniya Georgievna (JIHT RAS, Moscow, Russia), Vaulina O. S.

18:00 **POSTER SESSION**

19:00  **SUPPER**

20:00–
23:00 **POSTER SESSION**

Conference Program, March 4, 2015

Oral Session 16:00

Chairman

Prof. I.L.Iosilevskiy

- 16:00 Permittivity of hot plasmas in wide frequency range
Veysman Mikhail Efimovich (JIHT RAS, Moscow, Russia), Reinholz H., Röpke G., Wierling A., Winkel M.
- 16:15 Two-temperature equations of state and lattice stability of copper and gold
Migdal Kirill Petrovich (VNIIA, Moscow, Russia), Ilitsky D. K., Petrov Yu. V., Inogamov N. A.
- 16:30 Pressure in electronically excited warm dense metals
Stegailov Vladimir Vladimirovich (JIHT RAS, Moscow, Russia), Zhilyaev P. A.
- 16:45 On the kinetics of graphite melting: a molecular modeling approach
Orehhov Nikita Dmitrievich (JIHT RAS, Moscow, Russia), Stegailov V. V.
- 17:00 Molecular dynamics simulation of melting and superionic transition in various structures: UO_2 and UN_2
Korneva Maria Andreevna (JIHT RAS, Moscow, Russia), Starikov S. V.

17:15  **COFFEE-BREAK**

Chairman

Prof. A.E.Mayer

- 17:30 Shape memory phenomena and x-ray diffraction studies on copper-based shape memory alloys
Adiguzel Osman (FiratUni, Elazig, Turkey)
- 17:45 Calculation of elastic modules behind strong shock wave
Kraus Evgeny Ivanovich (ITAM SB RAS, Novosibirsk, Russia), Shabalin I. I.
- 18:00 Thermodynamics and diffusivity of point defects in UN: atomistic simulations
Kuksin Alexey Yurievich (JIHT RAS, Moscow, Russia), Smirnova D. E., Starikov S. V., Yanilkin A. V.
- 18:15 Molecular dynamic study of metal nuclear fuel features
Kolotova Lada Nikolaevna (JIHT RAS, Moscow, Russia), Smirnova D. E., Starikov S. V.
- 18:30–18:45 Atomistic simulation of nucleation in metastable liquid metals under tension
Lopanitsyna Nataliya Yurievna (JIHT RAS, Moscow, Russia), Kuksin A. Yu.

20:00–23:00  **BANQUET**



Conference Program, March 5, 2015

Oral Session 16:00

Chairman

Dr. V.P.Efremov

- 16:00 Spin crossover and Mott–Hubbard transition under high pressure and high temperature in the low mantle of the Earth
Ovchinnikov Sergei Gennadievich (KIP SB RAS, Krasnoyarsk, Russia), Ovchinnikova T. M.
- 16:15 Melting curves of ionic crystals in quasiharmonic approximation
Krasnova Polina Andreevna (JIHT RAS, Moscow, Russia), Minakov D. V., Levashov P. R.
- 16:30 Diamond melting at negative pressures
Basharin Andrey Yurievich (JIHT RAS, Moscow, Russia), Levashov P. R., Dozhdikov V. S.
- 16:45 Surface tension and viscosity of nuclei in liquid drop model
Khokonov Azamat Khazret-Alievich (KBSU, Nalchik, Russia)
- 17:00 Dense systems viscosity
Kirova Elena Mikhailovna (JIHT RAS, Moscow, Russia), Norman G. E.

17:15



COFFEE-BREAK

Chairman

Prof. L.G.Dyachkov

- 17:30 Plasma phase transition in warm dense hydrogen
Norman Genri Edgarovich (JIHT RAS, Moscow, Russia), Saitov I. M., Stegailov V. V.
- 17:45 Brewster angle of shock-compressed xenon plasmas
Norman G. E., Saitov Ilnur (JIHT RAS, Moscow, Russia)
- 18:00 One-electron model of the high-frequency dielectric permeability of dense plasmas
Lankin Alexander Valerievich (JIHT RAS, Moscow, Russia), Norman G. E., Saitov I. M.
- 18:15 On the axial and transverse cooling rates of an antiproton in positron gas in strong magnetic field
Bobrov Andrei Alexandrovich (JIHT RAS, Moscow, Russia), Bronin S. Ya., Khikhlukha D. R., Zelener B. B., Zelener B. V.
- 18:30 Experimental techniques and numerical simulations for study of Rydberg matter and ultracold plasma
Zelener Boris Borisovich (JIHT RAS, NRNU MEPhI, Moscow, Russia), Saakyan S. A., Sautenkov V. A., Butlitsky M. A., Bobrov A. A., Bronin S. Ya., Khikhlukha D. R., Zelener B. V., Fortov V. E.
- 18:45 Calculating thermodynamical properties of two component “shelf Coulomb” plasma model using Gibbs statistical ensemble Monte Carlo technique
Butlitsky Michael Anatolievich (JIHT RAS, Moscow, Russia), Zelener B. V., Zelener B. B.

19:00




SUPPER

Chairman

Prof. G.E.Norman

- 20:00 Measurement of ion energy losses in gas-discharge plasma
Gavrilin Roman Olegovich (SSC RF ITEP, Moscow, Russia), Savin S. M., Rudskoy I. V., Golubev A. A., Kuznetsov A. P.
- 20:15 Radiative spectra of dense hydrogenic plasma: line-to-continuum transition problem
Dyachkov Lev Gavriilovich (JIHT RAS, Moscow, Russia)
- 20:30 The electrostatic interaction of two charges in equilibrium plasmas within the Debye approximation
Filippov Anatoly Vasilievich (SRC RF TRINITI, Troitsk, Russia)
- 20:45 Determination of the charge and the mass of a single microparticle in the electrodynamic trap
Syrovatka Roman Aleksandrovich (JIHT RAS, Moscow, Russia), Pecherkin V. Ya., Lapitsky D. S., Deputatova L. V., Vladimirov V. I.

- 21:00 Effective forces and pseudopotential wells and barriers in the linear Paul trap
Lapitsky Dmitry Sergeevich (JIHT RAS, Moscow, Russia)
- 21:15 Relaxation time in a model of dusty plasma
Timofeev Alexey Vladimirovich (JIHT RAS, Moscow, Russia)
- 21:30 On melting density gap and non-congruence of phase transitions in models of dusty and colloid plasmas
Martynova Inna Aleksandrovna (JIHT RAS, Moscow, Russia), Iosilevskiy I. L.
- 21:45 High-current channel structure at high density gas
Pinchuk Mikhail Ernestovich (IEE RAS, Saint-Petersburg, Russia), Bogomaz A. A., Budin A. V., Leont'ev V. V., Leks A. G., Pozubenkov A. A., Rutberg Ph. G.
- 22:00 Confining boundary conditions for simulation of interacting fermions by antisymmetrized wave packet molecular dynamics
Valuev Ilya Alexandrovich (JIHT RAS, Moscow, Russia), Morozov I. V.
- 22:15 Dynamics of electrons in laser produced cluster nanoplasma
Bystrtyi R. G. (JIHT RAS, Moscow, Russia), Morozov I. V.
- 22:30 The study of electron impact ionization processes of substance, which simulate the components of a spent nuclear fuel
Smirnov V. P., Antonov Nikolay Nikolaevich (MIPT, Dolgoprudny, Russia), Bochkarev E. I., Gavrikov A. V., Samokhin A. A.
- 22:45 The stationary vacuum arc on non-thermionic hot cathode
Amirov R. Kh., Antonov N. N., Vorona N. A., Gavrikov A. V., Liziakin G. D., Polistchook V. P., Samoylov I. S., Smirnov V. P., Usmanov Ravil Anatolievich (MIPT, Dolgoprudny, Russia), Yartsev I. M.
- 23:00 **CLOSING CEREMONY**
Concluding words by A. P. Savintsev, V. P. Efremov, K. V. Khishchenko
- 23:15  **COFFEE-END**