

Conference Program, March 1, 2016

Opening Ceremony 16:00

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

Chairman

Prof. G. I. Kanel

- 16:15 A V Bushman and equation-of-state problem
Lomonosov Igor Vladimirovich (IPCP RAS, Chernogolovka, Russia)
- 16:40 Binodal layer and rarefaction shock in retrograde adiabatic expansion of warm dense matter in two-phase region of non-congruent phase transition
Iosilevskiy Igor L'vovich (JIHT RAS, Moscow, Russia), Gryaznov V. K.

17:00  **COFFEE-BREAK**

Chairman

Prof. G. I. Kanel

- 17:30 On mechanical measurements in high-energy-density physics (plenary)
Fortov Vladimir Evgenievich (JIHT RAS, Moscow, Russia)
- 18:15 Complex structures of dense lithium: Electronic origin
Degtyareva Valentina Feognievna (ISSP RAS, Chernogolovka, Russia)
- 18:30 Nitrogen phase transformation under quasi-isentropic compression up to 130 GPa
Ternovoi Vladimir Yakovlevich (IPCP RAS, Chernogolovka, Russia), Nikolaev D. N., Kvitov S. V., Pyalling A. A.
- 18:45 Deuterium compression isentrope: Analysis of temperature and electrical conductivity
Levashov Pavel Remirovich (JIHT RAS, Moscow, Russia), Minakov D. V., Chentsov A. V.

19:00  **SUPPER**

Chairman

Prof. I. V. Lomonosov

- 20:00 Wide-range equations of state for compounds at high dynamic pressures
Khishchenko Konstantin Vladimirovich (JIHT RAS, Moscow, Russia)
- 20:15 Equation-of-state calculation for LiH and LiD based on quantum-statistical models
Kadatskiy Maxim Alekseevich (JIHT RAS, Moscow, Russia), Khishchenko K. V.
- 20:30 Region of validity of the Thomas–Fermi model with quantum, exchange and shell corrections
Dyachkov Sergey Aleksandrovich (JIHT RAS, Moscow, Russia), Levashov P. R., Minakov D. V.
- 20:45 Fluid–fluid–solid triple point on melting lines at high temperatures
Norman Genri Edgarovich (JIHT RAS, Moscow, Russia), Saitov I. M.
- 21:00 Dynamics of phonon spectrum and anomaly of the curve of melting of sodium at pressures 0–60 GPa
Chingina E. A., Volkov Nikolay Borisovich (IEP UB RAS, Ekaterinburg, Russia)

Chairman

Prof. I. L. Iosilevskiy

- 21:15 On the kinetics of graphite melting: A molecular modeling approach
Orekhov Nikita (JIHT RAS, Moscow, Russia), Stegailov V. V.
- 21:30 Attachment and accommodation at cluster growth in metal vapor
Lenev Dmitrii Yurievich (JIHT RAS, Moscow, Russia), Norman G. E.
- 21:45 Martensitic transformation and nanoscale aspects in shape memory alloys
Adiguzel Osman (FiratUni, Elazig, Turkey)
- 22:00 Investigations of thermal conductivity of metals in the field of centrifugal and vibration accelerations
Lepeshkin Alexander Roaldovich (CIAM, Moscow, Russia), Vaganov P. A.

- 22:15 Nucleation and spall strength of liquid metals
Lopantsyna Nataliya Yurievna (JIHT RAS, Moscow, Russia), Kuksin A. Yu.
- 22:30 Molecular dynamics study of viscosity during glass transition of aluminum melt
Kirova Elena Mikhailovna (MIPT, Dolgoprudny, Russia), Pisarev V. V.
- 22:45–
23:00 Features of structure and phase transitions in pure uranium and U-Mo alloys: Atomistic simulation
Kolotova Lada Nikolaevna (JIHT RAS, Moscow, Russia), Kuksin A. Yu., Smirnova D. E., Starikov S. V., Tseplyaev V. I.

21:15–
23:00



COFFEE-CONTINUUM

Conference Program, March 2, 2016

Oral Session 16:00

Chairman

Prof. A. V. Eremin

- 16:00 Dynamics of shock and shockless compression waves in solids
Kanel Gennady Isaakovich (JIHT RAS, Moscow, Russia)
- 16:15 One- and two-stage cumulative Mach-type shock wave generators
Nikolaev Dmitry Nikolaevich (IPCP RAS, Chernogolovka, Russia), Kvitov S. V., Shutov A. V., Ternovoi V. Ya.
- 16:30 Energy dissipation rate in copper subjected to the high pressure loading
Borodin Elijah Nikolaevich (IPME RAS, Saint Petersburg, Russia), Mayer A. E., Podurets A. M., Beluhina P. S., Grebennikova S. E., Tkachenko M. I., Balandina A. N.
- 16:45 The role of decompression and micro-jetting in shock wave synthesis experiments
Schlothauer Thomas (TUBAF, IIC, Freiberg, Germany), Schimpf C., Kroke E., Heide G., Schwarz M. R.

17:00  **CONFERENCE PHOTO (OUTSIDE)**

 **COFFEE-BREAK**

Chairman

Prof. V. V. Golub

- 17:30 Activities on proton radiography at the Institute for Theoretical and Experimental Physics
Golubev Alexander Alexandrovich (SSC RF ITEP, Moscow, Russia), Kantsyrev A. V.
- 17:45 Morphological turning, electroconductivity and structural phase transitions of shocked titanium
Golyshev Andrey Anatolievich (IPCP RAS, Chernogolovka, Russia), Kolobova A. Yu., Kudymova Yu. E., Molodets A. M.
- 18:00 Continuum model of tensile fracture of metals and its application to the shock wave problems
Mayer Alexander Evgenievich (CSU, Chelyabinsk, Russia)
- 18:15 Research of fracture of materials and designs at shock-wave loadings by means of the program complex EFES
Radchenko Pavel Andreevich (TSUAB, Tomsk, Russia), Radchenko A. V., Batuev S. P., Tukaev A. M.
- 18:30 Detonability of mechanoactivated ammonium-perchlorate-based mixtures with nano-Al
Shevchenko Arseny (NRNU MEPhI, Moscow, Russia), Dolgoborodov A. Yu., Brazhikov M. A., Kirilenko V. G.
- 18:45 Theory and experiments of premixed turbulent combustion
Krikunova Anastasia Igorevna (JIHT RAS, Moscow, Russia), Son E. E.

19:00  **SUPPER**

Chairman

Dr. K. V. Khishchenko

- 20:00 The behavior of boron carbide under non-hydrostatic stress
Korotaev Pavel Yurievich (VNIIA(S), Moscow, Russia), Pokatashkin P. A., Yanilkin A. V.
- 20:15 The viscosity and surface tension of nuclear matter and quark-gluon plasma
Khokonov Azamat Khazret-Alievich (KBSU, Nalchik, Russia)
- 20:30 Synthesis and thermal properties of pristine and hydrogenated carbon graphene-like materials
Tarala V. A., Akhmatov Zeitun Anuarovich (KBSU, Nalchik, Russia), Khokonov A. Kh.
- 20:45 Equation of state of fluid monolayer absorbed on a stochastic surface
Khlyupin Aleksey Nikolaevich (MIPT, Dolgoprudny, Russia), Dinariev O. Y.

- 21:00 Detection of micro- and nanoparticles in dynamic processes
Ten Konstantin Alekseevich (LIH SB RAS, Novosibirsk, Russia), Prueel E. R., Kashkarov A. O., Rubtsov I. A., Shechtman L. I., Zhulanov V. V., Tolochko B. P., Rykovanov G. N., Muzyrya A. K., Smirnov E. B., Stolbikov V. Yu., Prosvirnin K. M.
- 21:15 Dynamics of sizes of nanoparticles at trinitrotoluene detonation on the VEPP-4M synchrotron radiation
Rubtsov Ivan Andreevich (LIH SB RAS, Novosibirsk, Russia), Ten K. A., Prueel E. R., Kashkarov A. O.
- 21:30 Detonation initiation in AB model of explosive: Comparative atomistic and hydrodynamics simulations
Murzov Semen Alexandrovich (MIPT, Dolgoprudny, Russia), Sergeev O. V., Dyachkov S. A., Egorova M. S., Parshikov A. N., Zhakhovsky V. V.
- 21:45 The method of calculating the thermodynamic properties and the composition of the explosion products if there is no full chemical equilibrium
Shargatov Vladimir Anatolievich (NRNU MEPhI, Moscow, Russia), Gubin S. A.
- 22:00 A theory of pulsating and cellular detonations
Kasimov Aslan (KAUST, Thuwal, Saudi Arabia), Faria L. M., Rosales R. R.
- 22:15 Two-stage light-gas magnetoplasma accelerator for hypervelocity impact simulation
Khramtsov P. P., Vasetskij V. A., Makhnach Anastasiya (HMTI NASB, Minsk, Belarus), Hryshchanka U. M., Chernik M. Yu., Shikh I. A., Doroshko M. V.
- 22:30–
22:45 The influence of coal particles on self-ignition of methane–air mixture at the temperature 950–1200 K
Leschevich V. V., Penyazkov O. G., Shimchenko Sergey Yur'evich (HMTI NASB, Minsk, Belarus), Yaumenchykau M. L.

21:00–
22:00



COFFEE-CONTINUUM



Conference Program, March 3, 2016

Oral Session 16:00

Chairman

Prof. V. B. Mintsev

- 16:00 International research laboratory and planned hydrodynamic experiments at the International Space Station
Son Eduard Evgen'evich (JIHT RAS, Moscow, Russia), Fortov V. E., Gorshkov O. A., Zelenyi L. M., Kabov O. A., Karabadjak G. F., Tsurkov V. I.
- 16:15 Experience on math simulation of aerogasdynamic and shock wave processes accumulated by the State Rocket Centre
Degtiar V. G., Khlybov Vladimir Ilyich (Makeyev GRTs, Miass, Russia)
- 16:30 Approach to solution of coupled heat transfer problem on the surface of hypersonic vehicle of arbitrary shape
Bocharov Aleksey Nikolaevich (JIHT RAS, Moscow, Russia), Bityurin V. A., Golovin N. N., Evstigneev N. M., Petrovskiy V. P., Ryabkov O. I., Teplyakov I. O., Shustov A. A., Fortov V. E., Solomonov Yu. S.
- 16:45 Calculations of scaled model of the HEXAFLY-CIAM module in FlowVision software
Markova Tatiana Valerievna (JIHT RAS, Moscow, Russia), Aksenov A. A., Gavrilov A. D., Prokhorov A. N., Son E. E., Zhlukov S. V., Savitsky D. V.

17:00



COFFEE-BREAK

Chairman

Prof. A. P. Savintsev

- 17:15 On the exothermal reaction kernel formation in shock tube
Kiverin Alexey (JIHT RAS, Moscow, Russia), Yakovenko I. S.
- 17:30 Peculiarities of numerical analysis of unsteady reactive flows
Yakovenko Ivan Sergeevich (JIHT RAS, Moscow, Russia), Kiverin A. D., Ivanov M. F., Pinevich S. G.
- 17:45 Combustion onset in channels induced by hydrogen jet propagating from the high pressure chamber
Golub V. V., Golovastov S. V., Ivanov M. F., Kiverin A. D., Smygalina Anna Evgenievna (JIHT RAS, Moscow, Russia)
- 18:00 Optical diagnostics of laser-generated shock waves at LUCH laser facility
Kuznetsov A. P., Gubskii Konstantin Leonidovich (NRNU MEPhI, Moscow, Russia), Derkach V. N., Belkov S. A., Garanin S. G., Golovkin S. Yu.
- 18:15 Metal film on substrate: Dynamics under action of ultra-short laser pulse
Khokhlov Victor Alexandrovich (ITP RAS, Chernogolovka, Russia), Anisimov S. I., Inogamov N. A., Zhakhovsky V. V., Khishchenko K. V.
- 18:30 Dislocation structures in oxide nuclear fuel: Computer simulation and experiments
Lunev Artem Vladimirovitch (JIHT RAS, Moscow, Russia), Baranov V. G., Isaenkova M. G., Krymskaya O. A.
- 18:45 On two mechanisms of interaction of high speed cosmic bodies with surface of planets
Barenbaum Azary Aleksandrovich (OGRI RAS, Moscow, Russia), Shpekin M. I.

19:00



SUPPER

20:00–
23:00

POSTER SESSION



Conference Program, March 4, 2016

Oral Session 16:00

Chairman

Prof. N. E. Andreev

- 16:00 Non-ideal plasmas created in the short pulse laser interaction with mass-limited and nanostructured targets
Rosmej Olga Nikolaevna (GSI, Darmstadt, Germany), Neumayer P., Khaghani D., Schönlein A., Pikuz S. A.
- 16:15 A comparison of atomistic and continual simulation of ablation dynamics under femtosecond double-pulse laser irradiation of metals
Fokin Vladimir Borisovich (JIHT RAS, Moscow, Russia), Povarnitsyn M. E., Levashov P. R.
- 16:30 A wide-range model for simulation of laser-induced dynamics of aluminum plasma
Povarnitsyn Mikhail Evgen'evich (JIHT RAS, Moscow, Russia), Andreev N. E.
- 16:45 Optimization of electron acceleration under the action of petawatt-class laser pulses onto foam targets
Pugachev Leonid (JIHT RAS, Moscow, Russia), Andreev N. E., Levashov P. R.

17:00



COFFEE-BREAK

Chairman

Dr. P. R. Levashov

- 17:15 Laser wakefield acceleration of polarized electron beams
Pugacheva Daria (JIHT RAS, Moscow, Russia), Andreev N. E., Cros B.
- 17:30 On the control of geometric factors for high quality accelerated electron bunches in guiding structures
Veysman Mikhail Efimovich (JIHT RAS, Moscow, Russia), Andreev N. E., Kuznetsov S. V.
- 17:45 Diagnostics of recombining laser plasma parameters based on He-like ion resonance lines intensity ratios
Ryazantsev Sergey Nickolaevich (JIHT RAS, Moscow, Russia), Skobelev I. Yu., Faenov A. Ya., Pikuz T. A., Grum-Grzhimailo A. N., Pikuz S. A.
- 18:00 The glass nanocomposites optical strength laser ablation studies
Shemanin Valery Gennad'evich (KubSTU NPI, Novorossiysk, Russia), Mkrtychev O. V.
- 18:15–
18:30 Ultraviolet pulse laser photosynthesis of binary metal-carbon nanoparticles
Eremin A. V., Gurentsov E. V., Mikheyeva E. Yu., Musikhin Stanislav Alexeevich (JIHT RAS, Moscow, Russia)

20:00–
23:00



BANQUET



Conference Program, March 5, 2016

Oral Session 16:00

Chairman

Prof. L. G. Dyachkov

- 16:00 Similarity in exploding wires simulated by molecular dynamics and smoothed particle hydrodynamics
Egorova Maria Sergeevna (VNIIA(S), Moscow, Russia), Tkachenko S. I., Dyachkov S. A., Parshikov A. N., Zhakhovsky V. V.
- 16:15 Molecular dynamics simulation of primary radiation damage in Fe-Cr alloy
Zolnikov Konstantin Petrovich (ISPMS SB RAS, Tomsk, Russia), Korchuganov A. V., Kryzhevich D. S.
- 16:30 Influence of optical non-uniformity on the reflectance of dense plasmas
Norman G. E., Saitov Ihnur Minnigazievich (JIHT RAS, Moscow, Russia)
- 16:45 Reflecting boundary conditions for classical molecular dynamics simulations of nonideal plasmas
Lavrinenko Yaroslav Sergeevich (JIHT RAS, Moscow, Russia), Morozov I. V., Valuev I. A.

17:00  **COFFEE-BREAK**

Chairman

Prof. G. E. Norman


- 17:15 Thermionic emission from nanoplasma
Bystryi Roman (JIHT RAS, Moscow, Russia), Morozov I. V.
- 17:30 Gas-liquid type phase transition in modified pseudopotential and “shelf Coulomb” ultracold plasma models
Butlitsky Michael Anatolyevich (JIHT RAS, Moscow, Russia), Zelener B. B., Zelener B. V.
- 17:45 On the temperature of antihydrogen formed in magnetic trap
Bobrov Andrei Alexandrovich (JIHT RAS, Moscow, Russia), Bronin S. Y., Manykin E. A., Zelener B. B., Zelener B. V., Khikhlyukha D. R.
- 18:00 Dipole-dipole interaction between Rydberg atoms
Zelener Boris Vigdorovich (JIHT RAS, Moscow, Russia), Bronin S. Y., Dyachkov L. G., Klyarfeld A. B.
- 18:15 Study of Rydberg states of the lithium atoms
Zelener Boris Borisovich (JIHT RAS, Moscow, Russia), Saakyan S. A., Sautenkov V. A., Zelener B. V., Fortov V. E.
- 18:30 Interaction in equilibrium plasmas of charged macroparticles located in nodes of cubic lattices
Filippov Anatoly Vasilievich (SRC RF TRINITI, Troitsk, Russia)
- 18:45 Dusty plasma as unique object of collisional plasma physics
Norman G. E., Timofeev Alexey Vladimirovich (JIHT RAS, Moscow, Russia)

19:00  **SUPPER**

Chairman

Dr. V. P. Efremov

- 20:00 Dynamics and ordering in small systems of interacting particles
Koss Xeniya Georgievna (JIHT RAS, Moscow, Russia), Petrov O. F., Myasnikov M. I., Statsenko K. B., Vasiliev M. M.
- 20:15 Problem of phase transitions and thermodynamic stability in complex (dusty, colloid etc) plasmas
Martynova Inna Aleksandrovna (JIHT RAS, Moscow, Russia), Iosilevskiy I. L.
- 20:30 Effect of an electric field on a Coulomb cluster confined in a cusp magnetic trap under microgravity conditions
Dyachkov Lev Gavriilovich (JIHT RAS, Moscow, Russia), Myasnikov M. I., Petrov O. F., Vasiliev M. M., Fortov V. E., Savin S. F., Serova E. O.

- 20:45 Ionization instability of the elongated dusty cloud in the gas discharge uniform positive column under microgravity conditions
Zobnin Andrey Vjacheslavovich (JIHT RAS, Moscow, Russia), Usachev A. D., Lipaev A. M., Petrov O. F., Fortov V. E., Pustynnik M. Yu., Fink M. A., Thomas H. M.
- 21:00 The parameters affecting the potential of the plasma column in the reflex discharge
Liziakin Gennadii Dmitrievich (JIHT RAS, Moscow, Russia), Gavrikov A. V., Usmanov R. A., Smirnov V. P.
- 21:15 Neuromorphic approach for information processing of image reconstruction
Manykin Eduard Anatolievich (NRC KI, Moscow, Russia), Grichuk E. S., Kuzmina M. G.
- 21:30 **CLOSING CEREMONY**
Concluding words by A. P. Savintsev, V. P. Efremov, K. V. Khishchenko
- 21:45–
22:00  **COFFEE-END**