

Conference Program, March 1, 2020

Opening Ceremony 15:00

Introduction by V. E. Fortov, Yu. K. Al'tudov, M. Z. Ulakov, K. V. Khishchenko, V. G. Sultanov

Chairman

Prof. G.E.Norman

15:30 $\Gamma = (Z^2 e^2 / \varepsilon_T) n_e^{1/3}$ (plenary)

Fortov Vladimir Evgenievich (JIHT RAS, Moscow, Russia)

16:00 Equation of state for yttrium at high pressures and temperatures

Khishchenko Konstantin Vladimirovich (JIHT RAS, Moscow, Russia)

16:15 Metastable states, metastable equilibria, and critical points in a simple one-component system

Bidakov V. G., Protsenko Sergey Pavlovich (ITP UB RAS, Ekaterinburg, Russia)

16:30 Homogeneous electron gas at finite temperatures and exchange-correlation functionals

Levashov Pavel Remirovich (JIHT RAS, Moscow, Russia), Bonitz M.

16:45



CONFERENCE PHOTO (OUTSIDE)



COFFEE-BREAK

Chairman

Dr. P.R.Levashov

17:15 Measurement of the compressibility and temperature of shock compressed monocrystalline silicon up to 500 GPa

Nikolaev Dmitriy Nikolaevich (IPCP RAS, Chernogolovka, Russia), Kulish M. I., Dudin S. V., Mintsev V. B.

17:30 On the effects of melting on the shock-wave compression of lead

Rakhel Anatoly Dmitrievich (JIHT RAS, Moscow, Russia)

17:45 The sound velocity measurements for liquid lead in a wide range of density

Kondratyev Arseniy Mikhailovich (JIHT RAS, Moscow, Russia), Rakhel A. D.

18:00 Thermodynamic functions of dense plasmas with pseudoatom molecular dynamics

Ovechkin Anton Aleksandrovich (FSUE RFNC-VNIITF, Snezhinsk, Russia), Falkov A. L., Loboda P. A.

18:15 Thermodynamic properties of C-N-O-H mixture in the region of non-ideal plasma

Rykounov Alexey Alexandrovich (FSUE RFNC-VNIITF, Snezhinsk, Russia), Vorobyova M. A.

18:30 Thermodynamics of refractory metals in the near-critical region by ab initio calculations

Minakov Dmitry Vyacheslavovich (JIHT RAS, Moscow, Russia), Paramonov M. A., Levashov P. R.

18:45 Thermodynamic properties of liquid uranium: Ab initio simulation and interpretation of experimental data

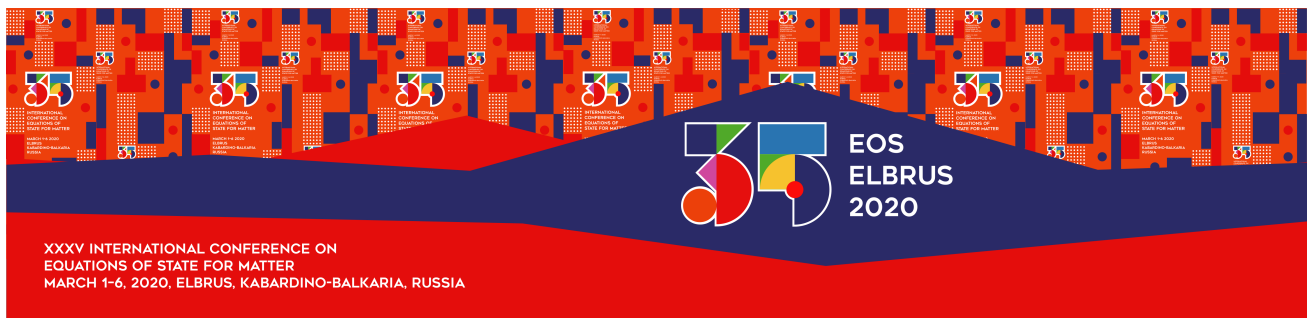
Paramonov Mikhail Anatol'evich (JIHT RAS, Moscow, Russia), Minakov D. V., Levashov P. R.

19:00–



SUPPER-BREAK

20:00



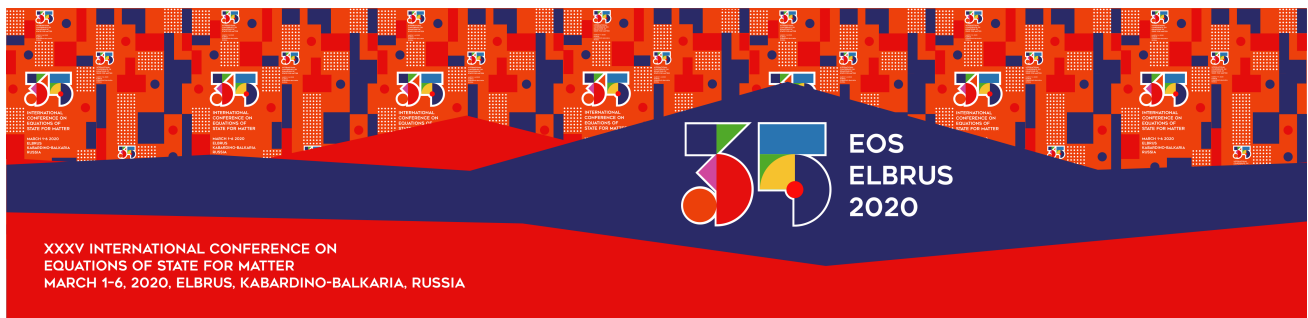
Conference Program, March 1, 2020

Oral Session 20:00

Chairman

Dr. K.V.Khishchenko

- 20:00 Reactions in the fayalite–deuterium system at high pressures
Efimchenko Vadim Sergeevich (ISSP RAS, Chernogolovka, Russia), Barkovskii N. V., Fedotov V., Meletov K. P., Prokoshin A. V.
- 20:15 Features of amorphization and crystallization of metal alloys under high pressure torsion
Sundeev Roman Vjacheslavovich (RTU MIREA, Moscow, Russia), Shalimova A. V., Glezer A. M., Rassadina T. V.
- 20:30 Structure and electronic properties of semimetallic crystalline molecular hydrogen at high pressures
Norman Genri Edgarovich (JIHT RAS, Moscow, Russia), Saitov I. M.
- 20:45 Superconducting critical temperature of a novel phase of crystalline hydrogen
Obzhirov Anatoly Evgenievich (JIHT RAS, Moscow, Russia), Saitov I. M.
- 21:00 Equation of state for homogeneous systems
Osmanova Badzhihanum Kamilevna (IGRRE JIHT RAS, Makhachkala, Russia), Bazaev E. A., Bazaev A. R.
- 21:15 Phase transitions in the local equation-of-state approximation and anomalies of spatial ion profiles in non-uniform plasma
Chigvintsev Alexander Yurievich (MIPT, Dolgoprudny, Russia), Iosilevskiy I. L., Noginova I. Yu., Zorina I. G.
- 21:30–21:45 Correspondence between classical and quantum description of the radiation damping of ultra-relativistic electrons in oriented crystals
Khokonov Murat Khazretalievich (KBSU, Nalchik, Russia)



Conference Program, March 2, 2020

Oral Session 15:30

Chairman

Dr. K.V.Khishchenko

- 15:30 Strong shock waves and extreme states of plasma obtained in the Russian Federal Nuclear Center—VNIIEF in experiments at pressures up to 20 TPa (plenary)
Mochalov Mikhail Alekseevich (FSUE RFNC–VNIIEF, Sarov, Russia), Il'kaev R. I., Erunov S. V.
- 16:00 Registration of double compression of materials using a synchrotron
Smirnov Evgeniy Borisovich (FSUE RFNC–VNIITF, Snezhinsk, Russia), Petrov D. V., Garmashev A. Yu., Pruel E. R., Ten K. A., Kashkarov A. O., Rubtsov I. A., Tolochko B. P.
- 16:15 Diagnostics of lead and its alloy melting by method of metallographic analysis of samples recovered after shock-wave loading and release
Malyshev Andrey Nikolaevich (FSUE RFNC–VNIIEF, Sarov, Russia), Ignatova O. N., Ilyushkina N. Yu., Skokov V. I., Shimanov A. V., Georgievskaya A. B., Sokolova A. S., Podurets A. M., Tkachenko M. A., Balandina A. N.
- 16:30 Numerical simulation of spall in lead accounting for its occurrence in solid as well as liquid phases
Ignatova Olga Nikolaevna (FSUE RFNC–VNIIEF, Sarov, Russia), Raevskiy V. A., Desyatnikova M. A., Zocher M. A.
- 16:45 Non-adiabatic effects and exciton-like states during insulator-to-metal transition in warm dense hydrogen
Fedorov I. D., Orekhov N. D., Stegailov Vladimir Vladimirovich (JIHT RAS, Moscow, Russia)
- 17:00 Mach reflection in detonation front interaction with shock-wave lens
Sultanov Valery Gulyamovich (IPCP RAS, Chernogolovka, Russia), Zaitsev V. Yu., Dudin S. V., Sosikov V. A., Torunov S. I.
- 17:15 Using data on shield volcanoes on Venus, craters on Mars, and seas on the Moon to determine the flux density of galactic comets in the Orion–Cygnus jet stream
Barenbaum Azariy Aleksandrovich (OGRI RAS, Moscow, Russia), Shpekin M. I.

17:30  **COFFEE-BREAK**

Chairman

Prof. N.A.Inogamov

- 17:45 Compressed laser-induced microplasma as an effective tool for transparent materials processing (plenary)
Veiko Vadim Pavlovich (ITMOU, Saint-Petersburg, Russia), Samokhvalov A. A., Gornushkin I. B., Kostyuk G. K., Sergeev M. M., Shkuratova V. A., Zakoldaev R. A., Gresko V. R., Koval V. V.
- 18:15 Raman spectroscopy insight into surface modes of silicon nanoparticles
Povarnitsyn Mikhail Evgenievich (JIHT RAS, Moscow, Russia), Shcheblanov N. S.
- 18:30 *Ab initio* calculations of the electron-phonon coupling factor for crystals under nonequilibrium heating
Smirnov Nikolay Aleksandrovich (FSUE RFNC–VNIITF, Snezhinsk, Russia)
- 18:45 On role of electron–electron, electron–ion and electron–phonon interactions and interband transitions in optical properties of warm dense matter
Veyzman Mikhail Efimovich (JIHT RAS, Moscow, Russia), Röpke G., Reinholz H.

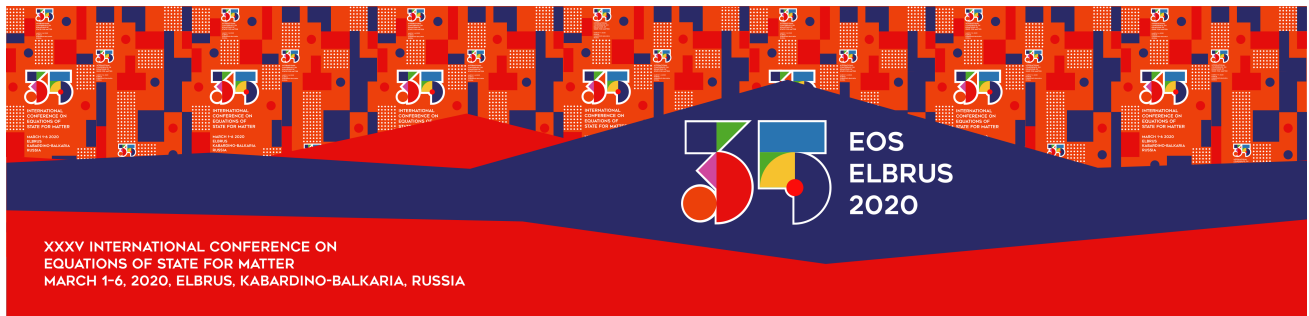
19:00



SUPPER-BREAK

20:00–
23:00

POSTER SESSION



Conference Program, March 3, 2020

Oral Session 16:00

Chairman

Prof. V.P.Veiko

- 16:00 Laser technologies: From physics of ablation to surface nanostructuring and to synthesis of colloids (plenary)
Inogamov Nail Alimovich (ITP RAS, Chernogolovka, Russia), Zhakhovsky V. V., Khokhlov V. A., Petrov Yu. V.
- 16:30 Laser ablation of a multilayer target with layers of nanometer thickness
Khokhlov Victor Alexandrovich (ITP RAS, Chernogolovka, Russia), Ashitkov S. I., Inogamov N. A., Komarov P. S., Parshikov A. N., Petrov Yu. V., Romashevskii S. A., Struleva E. V., Zhakhovsky V. V.
- 16:45 Generation of relativistic electrons and gammas in the interaction of relativistic laser pulses with plasma of near critical density
Andreev Nikolay Evgen'evich (JIHT RAS, Moscow, Russia)

17:00  **COFFEE-BREAK**

Chairman

Prof. N.E.Andreev

- 17:30 Impact of strong picosecond THz pulses on p-silicon
Mishina Elena Dmitrievna (RTU MIREA, Moscow, Russia), Kudryavtsev A. V., Agranat M. B., Ovchinnikov A. V., Chefonov O. V.
- 17:45 Laser generation of strong field THz and x-ray pulses for pump-probe experiments
Nazarov Maxim Michailovich (NRC KI, Moscow, Russia), Sheglov P. A., Garmatina A. A., Margushev Z. Ch.
- 18:00 On filling the gap of a vacuum-insulated line with plasma
Aleksandrov V. V., Branitskii A. V., Grabovski E. V., Frolov I. N., Khishchenko K. V., Oleinik G. M., Samokhin Alexandr Anatolievich (SRC RF TRINITI, Troitsk, Russia), Shishlov A. O., Tkachenko S. I.
- 18:15 Thermalization of the plasma arising during counter collision of high-energy plasma flows in a longitudinal magnetic field
Gavrilov V. V., Eskov A. G., Zhitlukhin A. M., Kochnev Dmitry Mikhailovich (SRC RF TRINITI, Troitsk, Russia), Pikuz S. A., Poznyak I. M., Ryazantsev S. N., Skobelev I. Yu., Toporkov D. A., Umrikhin N. M.
- 18:30 Baksan Underground Scintillation Telescope search for muon neutrinos from the gravitational wave event GW170817
Alikhanov Ibragim on behalf of Kochkarov Makhti (INR RAS, Moscow, Russia), Boliev M. M., Butkevich A. V., Dzaparova I. M., Kurennya A. N., Lidvansky A. S., Novoseltsev Yu. F., Novoseltseva R. V., Petkov V. B., Striganov P. S., Yanin A. F.

18:45 Large-volume detector at the Baksan Neutrino Observatory of the Institute for Nuclear Research of the Russian Academy of Sciences: Detector prototype
Fazliakhmetov A. N., Gangapshv A. M., Gavrln V. N., Ibragimova T. V., Kochkarov M. M., Kazalov V. V., Kudrin D. Yu., Kuzminov V. V., Lubsandorzhev B. K., Lukanov A. D., Malyshev Yu. M., Novikova G. Ya., Petkov V. B., Shikhin A. A., Sidorenkov A. Yu., Veretenkin E. P., Voronin D. M., Ushakov Nikita Andreevich (INR RAS, Moscow, Russia), Yanovich E. A.

19:00

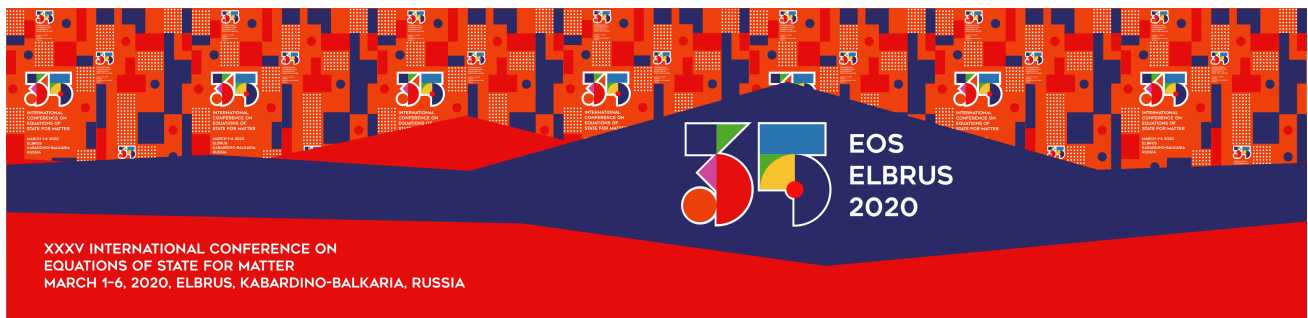


SUPPER-BREAK

20:00–

POSTER SESSION

23:00




Conference Program, March 4, 2020

Oral Session 16:00


Chairman

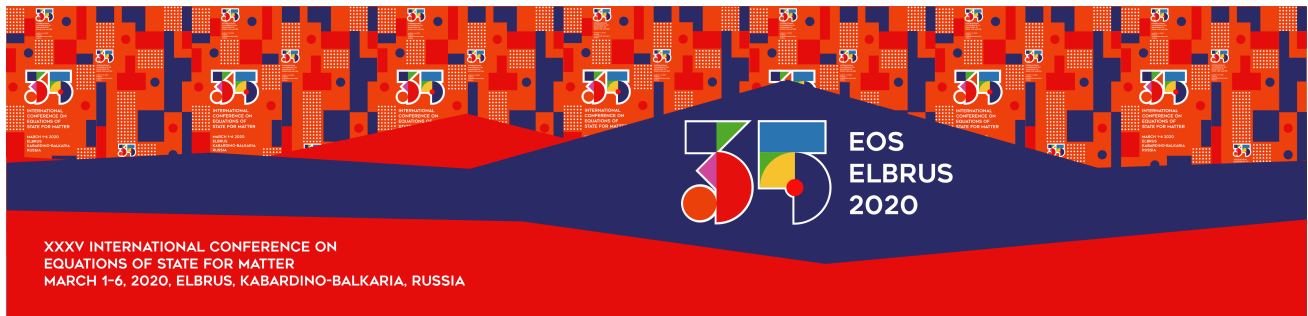
Prof. V.V.Stegailov

- 16:00 Fate of fragments of the Moon formation during the giant impact (plenary)
Byalko Alexey Vladimirovich (ITP RAS, Chernogolovka, Russia)
- 16:30 THERMOS Toolkit: Simulation of non-stationary plasma
Kim Dmitriy Andreevich (KIAM RAS, Moscow, Russia), Vichev I. Yu., Grushin A. S., Solomyanaya A. D.
- 16:45 Seismic barriers filled with granular metamaterials: Mathematical models for granular metamaterials
Kuznetsov S. V., Morozov N. F., Bratov Vladimir (IPME RAS, Saint-Petersburg, Russia), Ilyashenko A.
- 17:00 Simulation of shock-body interactions using the Runge–Kutta discontinuous Galerkin method with adaptive mesh refinement implemented on graphic accelerators
Korneev Boris Azamatovich (KIAM RAS, Moscow, Russia), Zakirov A. V., Levchenko V. D.
- 17:15  **COFFEE-BREAK**

Chairman

Prof. V.G.Sultanov

- 17:30 Machine-learning potentials for accurate description of lattice dynamics of complex compounds
Korotaev Pavel (VNIIA(S), Moscow, Russia)
- 17:45 Ab-initio calculations of point defects in bulk magnetite
Shutikova Maria Igorevna (MIPT, Dolgoprudny, Russia), Stegailov V. V.
- 18:00 Molecular dynamics study of the properties and structure of the amorphous Zr–Nb alloy
Kliavinek Sergey Sergeevich (MIPT, Dolgoprudny, Russia), Kolotova L. N.
- 18:15 Development of the wave packet molecular dynamics and density functional theory method for non-ideal plasma simulations
Lavrinenko Yaroslav (JIHT RAS, Moscow, Russia), Morozov I. V., Valuev I. A.
- 18:30 Stability limits of liquid and gas phases of methane–ethane mixture
Lenev Dmitrii Yurevich (MIPT, Dolgoprudny, Russia), Pisarev V. V.
- 18:45–19:00 On evaluation of combustion efficiency in a solid fuel ramjet combustor
Razmyslov Alexander (IPCP RAS, Chernogolovka, Russia), Sultanov V. G.
- 20:00–23:00  **BANQUET**



Conference Program, March 5, 2020

Oral Session 16:00

Chairman

Prof. L.G.Dyachkov

- 16:00 Distribution function of the ion microscopic field in a strongly coupled ultracold plasma: Method of molecular dynamics
Zelener Boris Borisovich (JIHT RAS, Moscow, Russia), Bobrov A. A., Bronin S. Ya., Klyarfeld A. B., Zelener B. V., Korchagin D. S.
- 16:15 Optical spectroscopy of ultracold calcium plasma
Vilshanskaya Evgeniya Vladimirovna (JIHT RAS, Moscow, Russia), Saakyan S. A., Sautenkov V. A., Bobrov A. A., Zelener B. B.
- 16:30 Optical dipole trap for cold lithium-7 atoms
Saakyan Sergey Aramovich (JIHT RAS, Moscow, Russia), Sautenkov V. A., Zelener B. B.
- 16:45 Plasma screening enhancement of thermonuclear reaction rates
Chugunov Andrey Igorevich (Ioffe Institute, Saint-Petersburg, Russia)

17:00  **COFFEE-BREAK**

Chairman

Prof. B.B.Zelener

- 17:15 The Moon surface latitude and dusty plasma
Dolnikov Gennady Gennadjevich (IKI RAS, Moscow, Russia), Zakharov A. V., Kartasheva A. A., Bychkova A. S., Shashkova I. A., Kuznetsov I. A., Lyash A. N., Popel S. I.
- 17:30 Dust cluster rotation in a stratified dc discharge under action of strong axial magnetic field up to 2.2 T
Dyachkov Lev Gavriilovich (JIHT RAS, Moscow, Russia), Dzlueva E. S., Novikov L. A., Pavlov S. I., Karasev V. Yu.
- 17:45 Electrostatic interaction of dust particles with nonuniform surface charge distribution
Filippov Anatoly Vasilievich (JIHT RAS, Moscow, Russia)
- 18:00 Experimental study of the nonreciprocal effective interactions between microparticles in a gas discharge
Sametov Eduard (JIHT RAS, Moscow, Russia), Kononov E. A., Lisin E. A., Vaulina O. S., Vasiliev M. M., Petrov O. F.
- 18:15 Non-linear screening effect in thermodynamics of asymmetric complex plasmas
Martynova Inna Aleksandrovna (JIHT RAS, Moscow, Russia), Iosilevskiy I. L.
- 18:30 Ion composition of nitrogen plasma jet with carbon admixture
Kavyrshin Dmitry Igorevich (JIHT RAS, Moscow, Russia), Chinnov V. F., Sargsyan M. A., Shcherbakov V. V., Khromov M. A., Korshunov O. V.

18:45– **CLOSING CEREMONY**

19:00 Concluding words by V. E. Fortov, A. P. Savintsev, K. V. Khishchenko, V. G. Sultanov