

Daily Schedule

Sep. 21 Sunday

14:00 - 18:00 Signing in and onsite registration

Location: Lobby of Zhongguanyuan Global Village (ZGV), Building 1

18:30 – 21:00 Welcome Reception and Poster Session

Location: Lake-View Hall

Sep. 22 Monday

Opening Session

Time: Sep.22 Morning 8:30 – 9:10

Location: Science Lecture Hall

8:30 – 9:00 Welcome Remarks

9:00 – 9:10 Conference photo taking (Location: West Gate of ZGV, Building 1)

Plenary Session I

Time: Sep.22 Morning 9:10 – 12:00

Chair: Xian-Tu He

Location: Science Lecture Hall

9:10 – 9:40 PS1.1 *Recent Progress in Hydrodynamics Experiments at High Energy Density*

R. Paul Drake (University of Michigan, US)

9:40 – 10:10 PS1.2 (To Be Arranged)

Juan C. Fernandez (Los Alamos National Laboratory, US)

10:10 – 10:40 PS1.3 *Auxiliary Heating of Inertial Confinement Fusion Targets*

Peter A. Norreys (University of Oxford, Rutherford Appleton Laboratory, UK)

10:40 – 11:00 **Coffee Break**

11:00 – 11:30 PS1.4 (To Be Arranged)

Jie Zhang (Shanghai Jiao Tong University, China)

11:30 – 12:00 PS1.5 *Advances in High Energy Density Physics Using an Ultra-relativistic Electron and Positron Beam as Drivers*

Chandrasekhar Joshi (University of California, Los Angeles, US)

12:00 – 13:30 **Lunch**

Location: Time Western Restaurant (Second Floor, Building 1, ZGV)

Session I Matter Properties under High Energy Density Conditions I

Time: Sep.22 Afternoon 13:30 – 15:30

Chair: Jianmin Yuan

Location: Lake-View Hall

13:30 – 13:55 S1.1 *Laboratory Astrophysics at LULI*

Michel Koenig (Invited, Ecole Polytechnique, France)

13:55 – 14:20 S1.2 *Atomic Processes in Debye Plasmas*

Jianguo Wang (Invited, Institute of Applied Physics and Computational Mathematics, China)

14:20 – 14:45 S1.3 *Quantum and Orbital Free Molecular Dynamic Simulations of*

Thermodynamical Properties of Typical Warm Dense Materials in Deuterium-tritium Capsule

Ping Zhang (Invited, Institute of Applied Physics and Computational Mathematics, China)

14:45 – 15:10 S1.4 *Disproportionation of (Mg, Fe) SiO₃ Perovskite in Earth's Deep Lower Mantle*

Li Zhang (Invited, Center for High Pressure Science and Technology Advanced Research, China)

15:10 – 15:30 S1.5 *Investigation of Warm and Hot Dense Matters with 3rd and 4th*

Generation X-ray Light Sources

Byoung-ick Cho (Gwangju Institute of Science and Technology, South Korea)

15:30 – 15:50 **Coffee Break**

Session II Matter Properties under High Energy Density Conditions II

Time: Sep.22 Afternoon 15:50 – 18:05

Chair: Michel Koenig

Location: Lake-View Hall

15:50 – 16:15 S2.1 *Coherence-suppressed X-ray Absorption of Inner-shell Electrons of*

A Neon Atom Based on A Thousands-level Master Equation Approach

Jianmin Yuan (Invited, National University of Defense Technology, China)

16:15 – 16:40 S2.2 *Irradiation Damage of SiO₂ under Fusion Neutrons in ICF Facility*

Jianming Xue (Invited, Peking University, China)

16:40 – 17:05 S2.3 *K-shell Photoabsorption Edge Measurement in Highly Compressed WDM*

Driven by Laser-converted Radiation

Yang Zhao (Invited, China Academy of Engineering Physics, China)

17:05 – 17:25 S2.4 *High Energy Density Physics State by Liquid Metal Conic Implosion*

Yi'an Lei (Peking University, China)

17:25 – 17:45 S2.5 *The Coherent Dynamic Structure Factors in Non-ideal Plasmas*

Di Luo (University of Science and Technology of China, China)

17:45 – 18:05 S2.6 *An Elastic-viscoplastic Self-consistent Model for Irradiated*

Polycrystalline Materials

Xiazi Xiao (Peking University, China)

Session III Laser Matter Interaction I

Time: Sep.22 Afternoon 13:30 – 15:25

Chair: Yongtao Zhao

Location: Tower-Shadow Hall

13:30 – 13:55 S3.1 *Ion Acceleration from Ultrathin Foils Irradiated at High Laser Intensities*

Macro Borghesi (Invited, The Queen's University of Belfast, UK)

13:55 – 14:20 S3.2 *New Concepts in High Energy Density Physics Research at ILE, Osaka*

Masakatsu Murakami (Invited, Osaka University, Japan)

14:20 – 14:45 S3.3 *Research Progress and Plan on High Energy Physics at NUDT*

Yanyun Ma (Invited, National University of Defense Technology, China)

14:45 – 15:05 S3.4 *Enhanced Laser-driven Ion Acceleration in Two Novel Schemes*

Jingwei Wang (Institute of Laser Engineering, Osaka University, Japan)

15:05 – 15:25 S3.5 *Stabilized Radiation Pressure Acceleration by the Concave Laser Pulse*

Meilin Zhou (Peking University, China)

15:25 – 15:50 **Coffee Break**

Session IV Laser Matter Interaction II

Time: Sep.22 Afternoon 15:50 – 17:20

Chair: Macro Borghesi

Location: Tower-Shadow Hall

15:50 – 16:15 S4.1 *Ultra-fast High Energy Electron Radiography and Low Energy Ion-plasma Interaction*

Yongtao Zhao (Invited, Institute of Modern Physics, Chinese Academy of Sciences, China)

16:15 – 16:40 S4.2 *High Angular Momentum Density Physics*

Baifei Shen (Invited, Shanghai Institute of Optics and Fine Mechanics, China)

16:40 – 17:00 S4.3 *Proton Collimation and Acceleration by A Nanofibre in the Laser*

Wakefield

Haicheng Wu (China University of Petroleum, China)

17:00 – 17:20 S4.4 *Generation of Monoenergetic Proton Beams from a Combined*

Scheme with a CH Target Irradiated by Ultraintense Laser Pulse

Weipeng Yao (Institute of Applied Physics And Computational Mathematics, China)

18:30 – 20:00 **Dinner**

Location: Time Western Restaurant (Second Floor, Building 1, ZGV)

Sep. 23 Tuesday

Plenary Session II

Time: Sep.23 Morning 8:30 – 11:50

Chair: R. Paul Drake

Location: Science Lecture Hall

8:30 – 9:00 PS2.1 *Laser Proton Acceleration in Multi - component Plasmas*

Chuan Sheng Liu (University of Macau, China)

9:00 – 9:30 PS2.2 (To Be Arranged)

Thomas Cowan (GSI Helmholtzzentrum für Schwerionenforschung GmbH, Germany)

9:30 – 10:00 PS2.3 *Strong Magnetic Field Generation by Laser and Its Applications*

Kunioki Mima (Osaka University, Japan)

10:00 – 10:20 **Coffee Break**

10:20 – 10:50 PS2.4 *Exploring the Plasma Kinetic Effects in Inertial-fusion on Implosion*

Chikang Li (Massachusetts Institute of Technology, US)

10:50 – 11:20 PS2.5 *Current Status of High Energy Density Physics with Intense Ion- and laser Beams at GSI and FAIR in Darmstadt*

Dieter H. H. Hoffmann (Technical University Darmstadt, Germany)

11:20 – 11:50 PS2.6 (To Be Arranged)

Shiyi Chen (Peking University, China)

12:00 – 13:30 **Lunch**

Location: Time Western Restaurant (Second Floor, Building 1, ZGV)

Session V Laser Matter Interaction III

Time: Sep.23 Afternoon 13:30 – 15:35

Chair: Jian Zheng

Location: Lake-View Hall

13:30 – 13:55 S5.1 *Exploiting Resistivity Gradients for Fast Electron Guiding in ICF and HEDP*

Alex Robinson (Invited, STFC Rutherford Appleton Laboratory, UK)

13:55 – 14:20 S5.2 *Progress on Fast Ignition Researches at LFRC*

Yuqiu Gu (Invited, Laser Fusion Research Center, China Academy of Engineering Physics, China)

14:20 – 14:45 S5.3 *Momentum Distribution of Near-Zero-Energy Photoelectrons in the Strong-Field Tunneling Ionization in the Long Wavelength Limit*

Jie Liu (Invited, Institute of Applied Physics and Computational Mathematics, China)

14:45 – 15:10 S5.4 *Recent Progress on High Quality Electron Beams Generation through Plasma Based Acceleration at L2PA of Tsinghua University*
Wei Lu (Invited, Tsinghua University, China)

15:10 – 15:35 S5.5 *Radiography by Laser Accelerated Electron Beams*
Xiaofang Wang (Invited, University of Science and Technology of China, China)

15:35 – 15:50 **Coffee Break**

Session VI Laser Matter Interaction IV

Time: Sep.23 Afternoon 15:50 – 18:05

Chair: Alex Robinson

Location: Lake-View Hall

15:50 – 16:15 S6.1 *High Energy Density Physics Research Activities at University of Science and Technology of China*
Jian Zheng (Invited, University of Science and Technology of China, China)

16:15 – 16:40 S6.2 *Coulomb Effect in Above-threshold Ionization in Intense Infrared Laser Field*
Jing Chen (Invited, Institute of Applied Physics and Computational Mathematics, China)

16:40 – 17:05 S6.3 *Generation and Transport of a Relativistic Electron Beam in Plasmas*
Hongbo Cai (Invited, Institute of Applied Physics & Computational Mathematics, China)

17:05 – 17:25 S6.4 *Generation of High Brightness Electron Beam Through Ionization Injection in Laser or Electron Beam Driven Wakes*
Xinlu Xu (Tsinghua University, China)

17:25 – 17:45 S6.5 *Self-generated MDs in Weakly Magnetized Beam-plasma*

Qing Jia (Peking University, China)

17:45 – 18:05 S6.6 *A New Method to Reduce The Energy Spread of The Electron Beams*

From Plasma-Based Accelerators

Yipeng Wu (Tsinghua University, China)

Session VII Inertial Confinement Fusion I

Time: Sep.23 Afternoon 13:30 – 15:25

Chair: Yongkun Ding

Location: Tower-Shadow Hall

13:30 – 13:55 S7.1 *Ion Beam Requirements for Fast Ignition of Inertial Fusion*

Javier Honrubia (Invited, Universidad Politécnica de Madrid, Spain)

13:55 – 14:20 S7.2 *Study on Octahedral Spherical Hohlräume for Inertial Fusion*

Ning Ding (Invited, Institute of Applied Physics and Computational Mathematics, China)

14:20 – 14:45 S7.3 *Study on Octahedral Spherical Hohlräume for Inertial Fusion*

Ke Lan (Invited, Institute of Applied Physics and Computational Mathematics, China)

14:45 – 15:05 S7.4 *Some Recent Physical Work based on Long Pulse Excimer Laser*

Facility “Heaven-one”

Baoxian Tian (China Institute of Atomic Energy, China)

15:05 – 15:25 S7.5 *Variation of Implosion Asymmetry with Hohlraum Length and Time*

in Indirect-drive Inertial Confinement Fusion

Hang Li (Research Center of Laser Fusion, China)

15:25 – 15:50 **Coffee Break**

Session VIII Inertial Confinement Fusion II

Time: Sep.23 Afternoon 15:50 – 17:40

Chair: Javier Honrubia

Location: Tower-Shadow Hall

15:50 – 16:15 S8.1 *Recent Progress of Laser Fusion Experimental Research in RCLF*

Yongkun Ding (Invited, Research Center of Laser Fusion, China)

16:15 – 16:40 S8.2 *Acceleration, Focusing and Energy Deposition of High Intensity*

Proton Beams in the Kilojoule Multi-picosecond Laser Regime for Fast Ignition

Bin Qiao (Invited, Peking University, China)

16:40 – 17:00 S8.3 *A Wedged-peak-pulse Design with Medium Fuel Adiabatic (or*

Entropy) for Indirect-drive Inertial Fusion

Zhengfeng Fan (Institute of Applied Physics and Computational Mathematics, China)

17:00 – 17:20 S8.4 *Quasi-isentropic Experiment with Direct Laser Illumination at Shen*

Guang III Prototype Laser Facility

Feng Wang (Research Center of Laser Fusion, China)

17:20 – 17:40 S8.5 *Multispectral X-ray Imaging for Imploded Core Temperature*

Observation

Wei Wang (Shanghai Institute of Laser Plasma, China)

18:30 – 21:00 **Banquet**

Location: Elite Banquet Hall (Underground, Building 1, ZGV)

Sep. 24 Wednesday

Plenary Session III

Time: Sep.24 Morning 8:30 – 11:00

Chair: Kunioki Mima

Location: Science Lecture Hall

8:30 – 9:00 PS3.1 *A Work-dominated Hot-spot Ignition Scheme for Indirect-drive Inertial Confinement Fusion*

Xian-Tu He (Peking University, China)

9:00 – 9:30 PS3.2 *Theoretical and Computational Modeling of Dense Pair Plasma Creation by Vacuum Breakdown with Ultra-Intense Lasers*

Hideaki Takabe (Osaka University, Japan)

9:30 – 10:00 PS3.3 *Compact X ray Beams Produced with Laser Plasma Accelerators*

Victor Malka (Ecole Polytechnique, France)

10:00 – 10:30 PS3.4 *Ab Initio Study of Thermodynamically Consistent Physical Properties of Warm Dense Plasma*

Jiaming Li (Shanghai Jiao Tong University, China)

10:30 – 11:00 **Coffee Break and Free Discussion**

12:00 – 13:30 **Lunch**

Location: **Time Western Restaurant (Second Floor, Building 1, ZGV)**

Session IX Laser Matter Interaction V

Time: Sep.24 Afternoon 13:30 – 15:30

Chair: Xueqing Yan

Location: Lake-View Hall

13:30 – 13:55 S9.1 *Relativistic Plasmas and High Energy Density Physics at UT Austin,*

Björn Manuel Hegelich (Invited, University of Texas at Austin, USA)

13:55 – 14:20 S9.2 *The Application of Near Critical Dense Plasmas(NCD) in High Field Science*

Xueqing Yan (Invited, Peking University, China)

14:20 – 14:45 S9.3 *Attosecond Electron Sheets and Attosecond Light Pulses from Relativistic Laser Wakefields in Underdense Plasma*

Zhengming Sheng (Invited, Shanghai Jiao Tong University, China)

14:45 – 15:10 S9.4 *Electron Acceleration by two Laser Pulses Propagating in A Capillary Filled with Near-critical-density Plasma*

Wei Yu (Invited, Shanghai Institute of Optics and Fine Mechanics, China)

15:10 – 15:30 S9.5 *Brilliant Gamma-ray Synchrotron on A Micron Scale*

Bin Liu (Institute of Applied Physics and Computational Mathematics, China)

15:30 – 15:50 **Coffee Break**

Session X Laser Matter Interaction VI

Time: Sep.24 Afternoon 15:50 – 17:45

Chair: Björn Manuel Hegelich

Location: Lake-View Hall

15:50 – 16:15 S10.1 *Study of Laser-driven Betatron Radiation in IOP*

Liming Chen (Invited, Institute of Physics, Chinese Academy of Sciences, China)

16:15 – 16:40 S10.2 *Coherent X-ray Radiation Sources based on Relativistic Electron Sheets*

Huichun Wu (Invited, Zhejiang University, China)

16:40 – 17:05 S10.3 *Recent Progresses on Laser Driven Magnetic Reconnection*

Jiayong Zhong (Invited, Beijing Normal University, China)

17:05 – 17:25 S10.4 *Phase and Direction Dependence of Vacuum Polarization in A Strong Circular Polarized Electromagnetic Field*

Yongsheng Huang (China Institute of Atomic Energy, China)

17:25 – 17:45 S10.5 *Design and Experimental Study of a Clean X-ray Radiation Source for High Energy Density Physics Experiments*

Tianming Song (China Academy of Engineering Physics, China)

Session XI Hydrodynamics in ICF I

Time: Sep.24 Afternoon 13:30 – 15:30

Chair: Wenhua Ye

Location: Tower-Shadow Hall

13:30 – 13:55 S11.1 *Three-dimensional Symmetry Analysis of Laser-driven Implosions*

Rafael Ramis (Invited, Universidad Politécnica de Madrid, Spain)

13:55 – 14:20 S11.2 *Collapse, Inverse Cascade, Turbulence, Condensation, and their Feedback Control*

Ming-Young Yu (Invited, Zhejiang University, China)

14:20 – 14:25 S11.3 *Relativistic Collisionless Shocks Driven by Lasers and Relativistic Outflows*

Luis O. Silva (Invited, Universidade de Lisboa, Portugal)

14:25 – 15:10 S11.4 *Laboratory Studies of Astronomical Phenomena*

Yutong Li (Invited, Institute of Physics Chinese Academy of Science, China)

15:10 – 15:30 S11.5 *An Investigation of the Oblique Detonation Wave Configuration*

Yan Liu (Peking University, China)

15:30 – 15:50 **Coffee Break**

Session XII Hydrodynamics in ICF II

Time: Sep.24 Afternoon 15:50 – 17:30

Chair: Rafael Ramis

Location: Tower-Shadow Hall

15:50 – 16:15 S12.1 *Some Recent Studies of Hydrodynamic Instabilities Relevant to Ignition Implosion of Inertial Confinement Fusion*

Wenhua Ye (Invited, Institute of Applied Physics and Computational Mathematics, China)

16:15 – 16:40 S12.2 *Discrete Boltzmann Modeling and Simulation of High Mach Compressible Flows*

Aiguo Xu (Invited, Peking University, China)

16:40 – 17:05 S12.3 *Progress in the Research on Compressible Turbulence*

Yipeng Shi (Invited, Peking University, China)

17:05 – 17:30 S12.4 *Mathematical Analysis and Numerical Simulation of the Wigner Transport Equation*

Tiao Lu (Invited, Peking University, China)

18:00 – 19:30 **Dinner**

Location: Time Western Restaurant (Second Floor, Building 1, ZGV)