46th International Workshop on High-Energy-Density Physics with Intense Ion and Laser Beams

January 25th – 30th, 2026

Darmstädter Haus

Hirschegg, Austria

Programme

Monday (January 26th)

Start	Duration	Speaker	Title
Session 1: Introduction (Chair: S. Le Pape)			
08:30	0:10	BAGNOUD, Vincent	Welcome + Opening
08:40	0:30	SCHOENBERG, Kurt	The HED@FAIR Collaboration Status Report
09:10	0:30	SPILLER, Peter	Longitudinal and transverse beam focusing at SIS18 and SIS100
09:40	0:30	TAVANA, Parysatis	Ultra-high Flux of Direct Laser Accelerated Electrons, MeV Photons and Neutrons using Overdense Foams
10:10		**Coffee break**	
Session 2: Inertial Confinement Fusion 1 (Chair: K. Schoenberg)			
10:40	0:30	LEE, Jordan	Measurements of the equation of state of foam targets for inertial fusion energy
11:10	0:30	PIRIZ, Antonio Roberto	Rayleigh-Taylor instability in non-ideal media: a quasi-irrotational approximation
11:30	0:20	MURAKAMI, Masakatsu	Self-similar multishock implosions for ultrahigh compression of matter
11:50	0:20	GLENZER, Siegfried	Advancing inertial fusion energy using ultra-high peak power X-rays
12:10		**Lunch break**	
Session 3: Short Pulse 1 (Chair: V. Bagnoud)			
17:00	0:30	KENNEDY, Jonathan	Ultrashort proton beams from all optical phase-space control
17:30	0:20	PAUW, Viktoria	Simulation of Particle Acceleration off Laser Irradiated Micro-Plasma
17:50	0:30	KARSCH, Stefan	Hybrid Wakefield Acceleration with 16% Beam-to-Beam Efficiency: Experimental Results and Infrastructure Advances
18:20	0:20	PUKHOV, Alexander	Galilean Electromagnetic PIC Code for Efficient Simulation of LWFA
18:40	0:20	HORNUNG, Johannes	High-charge electron acceleration in the self-modulated laser-wakefield acceleration regime at PHELIX
19:15		**Dinner**	**(only for house guests)**

Tuesday (January 27th)

Start	Duration	Speaker	Title
Session 4: Laser (Chair: Z. Major)			
08:30	0:30	SCHÖNLEIN, Andreas	High-LIDT Coatings for Laser Applications
09:00	0:20	DAUERER, Leon	A millijoule-level q-switched Nd:YLF laser pumped by high-power LEDs
09:20	0:20	COURJAUD, Antoine	Versatile Joule-class OPA as front-end laser for inertial fusion research
09:40	0:20	VON GRAFENSTEIN, Katinka	Ultra-high intensity laser pulses at 400 nm produced via Second Harmonic Generation
10:00		**Coffee break**	
Session 5: Inertial Confinement Fusion 2 (Chair: J. Lee)			
10:30	0:20	RUHL, Hartmut	High Gain Fusion Targets
10:50	0:30	LIENERT, Matthias	Systematic assessment of the hotspot ignition condition over a range of non-standard fuels
11:20	0:20	OPTOŁOWICZ, Filip	Investigating Magnetized Inertial Confinement Fusion Dynamics in Laser-Driven DT Fuel using PIConGPU
11:40	0:20	HONRUBIA, Javier	Hot electron transport in magnetized targets
12:00		**Lunch break**	
Session 6: Short Pulse+ and other (Chair: D. Hoffmann)			
17:00	0:30	GALBIATI, Marta	Ultra-high intensity laser interaction with nanostructured near-critical foams: numerical modelling and experimental challenges
17:30	0:20	SCHOLLMEIER, Marius	Experimental evaluation of Nano Accelerators driven at relativistic intensities
17:50	0:20	BILD, Christian	General Solution of the Moments of the Boltzmann Collision Integrals
18:10	0:20	NÖTH, Markus	Stopping of Nanoaccelerated Ions
18:30	0:20	BLASCHKE, David	Cluster viral expansion and generalized Beth--Uhlenbeck formula from the Φ - derivable approach
19:00		**Dinner**	**(only for house guests)**

Wednesday (January 28th)

Start	Duration	Speaker	Title
Session 7: Target Fabrication (Chair: J. Hornung)			
08:30	0:20	HAMEL, Elias	Advancing Projection Two-Photon Polymerization for High-Repetition-Rate IFE Target Fabrication: Predictive Modeling and High-Sensitivity Materials
08:50	0:20	SEIP, Joschka	A Cryogenic Platform for Investigating Wetting Dynamics in Deterministic 2PP Foams for IFE
09:10	0:20	**Poster Slam**	
10:10		**Coffee break**	
10:50	**1:30**	**Poster Session 1**	
12:20		**Lunch break**	
17:00	**1:30**	**Poster Session 2**	
18:40	**0:50**	**Conference Board Meeting**	
20:00		**Conference Dinner at Birkenhöhe**	

Thursday (January 29th)

Start	Duration	Speaker	Title
Session 8: Astrophysics (Chair: P. Neumayer)			
08:30	0:30	SCHUMACHER, Samuel	Direct Measurement of Hydrogen Opacity at Conditions Prevailing in the Interior of Small Stars
09:00	0:20	KRAUS, Dominik	The High Energy Density Initiative (HEDI) in Rostock
09:20	0:20	HE, Zhiyu	Ultrafast multiscale response dynamics of materials under high energy density conditions
09:40	0:40	ZHAO, Yongtao	Observation of stopping power suppression in non-linear ion-plasma coupling regime
10:00		**Coffee break**	
Session 9: Short Pulse 2 (Chair: S. Karsch)			
10:30	0:30	FITZPATRICK, Colm	Relativistic harmonics in the efficiency limit
11:00	0:20	TIMMIS, Robin	Experimental observation of anomalous instability-driven relativistic surface emission
11:20	0:20	YEUNG, Mark	Impact of Near-time Contrast on Coherent Synchrotron Emission from Thin Foils
11:40	0:20	MATHERON, Aimé	Vacuum Birefringence Measurements Using the Dark-Field Concept at the European XFEL
12:00		**Lunch break**	
Session 10: Inertial Confinement Fusion 3 (Chair: J. Honrubia)			
17:00	0:30	WANG, Peipei	Investigation of Broadband-laser-induced Plasma Interaction and ablation properties
17:30	0:20	KANSTEIN, Christopher	Experimentally modulated laser plasma instabilities by using low coherence lasers
17:50	0:20	SHVETS, Gennady	Heavy Ion Fusion: Ready for Reassessment?
18:10	0:20	MATEO, Alfonso	Probabilistic Model of Laser Drive Asymmetries for an IFE Reactor design
19:15		**Dinner**	**(only for house guests)**

Friday (January 30th)

Start	Duration	Speaker	Title
Session 11: Short Pulse 3 (Chair: A. Pukhov)			
08:30	0:30	YOUNG, Jordan	Control of Laser Contrast for Harmonic Generation from Relativistic Plasma Surfaces
09:00	0:20	ZEIL, Karl	Single-event fast neutron time-of-flight spectrometry with a petawatt-laser-driven neutron source
09:20	0:20	PAN, Diya	Simultaneous high-efficiency and high-energy proton acceleration via a dual-pulse micronozzle scheme
09:40	0:20	WEISER, Maximilian J.	Optimization and results of proton induced 238U fission at CALA
10:00		**Coffee break**	
Session 12: Warm Dense Matter (Chair: S. Neff)			
10:30	0:30	SCHANZ, Martin	PRIOR-II – The first proton and heavy-ion particle radiography facility for probing ultra-fast ns-scale HED physics and beyond
11:00	0:20	HESSELBACH, Philipp	High-precision measurement of the K-edge shift in heavy-ion heated aluminum
11:20	0:20	LÜTGERT, Julian	A platform for observing phase-transitions and measuring temperature of ion-heated samples
11:40	0:20	RIPS, Johannes	Investigating the onset of carbon K-shell ionization from imploding CH and HDC capsules measured at the National Ignition Facility
12:00		**Conclusion and End of Workshop**	

Poster Session 1 (Wednesday, 10:50-12:20)

1	BONIFER, Markus	Studies of laser ablation of band-gap materials
2	BOOS, Carl Gerog	Increasing the electron charge in Laser Wakefield Acceleration with Orbital Angular Momentum beams
3	FISCHER, Marvin	Ion stopping power experiments with the laser-driven LIGHT beam-line
4	KRASIK, Yakov	Recent Results of the Research of Underwater Electrical Explosion of Wires/Wires Arrays
5	McDONALD, Cara	Relativistic Attosecond Sources from Intense Multi-colour Laser Pulses
6	OHLAND, Jonas B.	Adaptive Laser Architecture Development and INtegration (ALADIN) - Towards Inertial-Fusion Ready Beam Control
7	RODEN, Stephanie	Thermalization of optically excited Fermi systems: electron-electron collisions in solid metals
8	SCHNELL, Sebastian	Design of a Yb:CALGO regenerative Amplifier for the PHELIX Laser System
9	SEIBEL, Christopher	Nonequilibrium phonon dynamics after laser-excitation
10	TEPLICKY, Tibor	Target Development at ELI Beamlines - Two-Photon Polymerization
11	WINTER, Victor	Simulation Studies of High-Charge Electron Generation in the Self-Modulated Laser Wakefield Acceleration Regime
12	ZOBUS, Yannik	From Concept to Digital Twin: Holistic Modelling of High-Energy Laser Facilities with OPOSSUM

Poster Session 2 (Wednesday, 17:00-18:30)

1	CIKHARDT, Jakub	Characterization of Electron, EMP and Ion Emission at the kilojoule Laser System PALS
2	GRIMM, Sarah J.	Spectral Shaping in Laser-Ion Acceleration by Multispecies Effects
3	KOZAN, Alperen	Damage Threshold Tests for Project FOR2783
4	LINDQVIST, Björn	In-situ X-ray analysis of diamond formation in dynamically compressed glassy carbon
5	LÖFFELMANN, Jiří	Hybrid Modeling of Fast Electron Transport and EMP Generation in Nanosecond Laser-Target Interactions
6	MAJOR, Zsuzsanna	Update on the THRILL project: Towards High-Energy Lasers at High Repetition Rates
7	MARGRAF, Marcel	Plasma-Assisted Methane Decomposition for Hydrogen Production Using Micro Hollow Cathode and Dielectric Barrier Discharges
8	MARTIN, Jed	High-Repetition-Rate X-ray Diffraction of Shock-Compressed PET at the EuXFEL
9	MAY, Philipp	Investigating the DC conductivity of compressed C-H and C-H-O mixtures using ultrafast terahertz pulses
10	NEFF, Stephan	HED@FAIR - High Energy Density Science at FAIR
11	SÄVERT, Alexander	Active beamstabilization for JETi200 and TAF
12	WEGERT, Leonard M.	Experimental Study of Shock Interaction with a Dense Obstacle embedded in Foam Target