

# **36th International Workshop on High Energy Density Physics with Intense Ion and Laser Beams**

**January 31 - February 5, 2016**

**Waldemar-Petersen-Haus, Hirschegg, Austria**



## **Program**

## Monday, 2016.02.01

Chair: J.J. Honrubia			
<b>09:00</b>	J.J. Honrubia	(10 min)	Opening
<b>09:10</b>	B. Sharkov	(20+5 min)	FAIR
<b>09:35</b>	P. Spiller	(25+5 min)	Status of SIS 18 upgrade and Beam Intensities
<b>10:05</b>	S. Glenzer	(20+5 min)	High Energy Density science with an ultra-bright x-ray laser
<b>10:30–11:00</b>			<b>Coffee break</b>
Chair:			
<b>1:00</b>	B. Canaud	(20+5 min)	Direct-drive fusion on LMJ: status and prospect
<b>11:25</b>	B. G. Logan	(20+5 min)	Closing NIF's "Ignition Gap" with applied Bz
<b>11:50</b>	K. Mima	(20+5 min)	Ion acceleration with kJ picosecond laser LFEX
<b>12:15–17:00</b>			<b>Lunch break</b>
Chair:			
<b>17:00</b>	A. Pukhov	(20+5 min)	Laser absorption in plasmas: from nano-targets to near-QED regime
<b>17:25</b>	B. Liu	(20+5 min)	All-optical synchrotron-like X/gamma-ray radiation in near critical density plasma
<b>17:50</b>	A. Savel'ev	(15+5 min)	Electron acceleration control under relativistic laser-plasma interaction with tailored targets
<b>18:10</b>	B. Afeyan	(15+5 min)	The prospects of Controlling Nonlinear Optical Processes in High Energy Density Plasmas Using Spike Trains of Uneven Duration and Delay (STUD Pulses)
<b>18:30</b>	L. Yi	(15+5 min)	Bright X-ray source from a laser-driven micro-plasma-waveguide
<b>18:50</b>	D. Corvan	(15+5 min)	A High-Energy, High-Flux Source of Gamma-Rays From All-Optical Non-Linear Thomson Scattering
<b>19:10</b>			<b>Dinner</b>

## Tuesday, 2016.02.02

Chair:			
<b>08:30</b>	S. Neff	(20+5 min)	Experimental facilities for plasma physics experiments at FAIR
<b>08:55</b>	V. Bagnoud	(20+5 min)	Current status and upgrades of the PHELIX facility
<b>09:20</b>	N. A. Tahir	(15+5 min)	Challenges of the Future Circular Collider at CERN
<b>09:40</b>	I. Hofmann	(15+5 min)	Germany's way out of the nuclear age
<b>10:00–10:30</b>			<b>Coffee break</b>
Chair:			
<b>10:30</b>	M. Murakami	(20+5 min)	Neutron Production via Coulomb Explosion using Nanotubes and Spherical Clusters
<b>10:55</b>	B. Dromey	(15+5 min)	Temporal characterization of picosecond bursts of laser-driven ions in SiO <sub>2</sub>
<b>11:15</b>	V. Pauw	(15+5 min)	PIC Simulations of Proton Acceleration of Mass Limited Targets in 2D and 3D plasmas(H,He,Ar,N <sub>2</sub> ,Xe)
<b>11:35</b>	C. Deutsch	(15+5 min)	PW-Laser produced protons stopped in WDM
<b>11:55</b>	A. Ulrich	(15+5 min)	Optical beam diagnostics for intense ion beams. Concept for a BMBF project
<b>12:15–17:00</b>			<b>Lunch break</b>
Chair:			
<b>17:00</b>	A.R. Piriz	(20+5 min)	Hydrodynamic growth and decay of planar shock waves
<b>17:25</b>	J. Helfrich	(15+5 min)	Phase change of Carbon between 100-200 GPa in the warm dense matter regime
<b>17:45</b>	A. Debayle	(15+5 min)	Modeling crossed-beam energy transfer for radiative hydrodynamic codes
<b>18:05</b>	G. Vergunova	(15+5 min)	Possible scenarios of compression degradation of nuclear indirect targets on the NIF facility
<b>18:25</b>	F. Cobos	(15+5 min)	Richtmyer-Meshkov like flows: analytical expressions of the asymptotic velocities in different physical limits
<b>18:45</b>	Y. Sun	(15+5 min)	Rayleigh-Taylor instability in solid plates at the early stage of acceleration
<b>19:05</b>			<b>Dinner</b>

## Wednesday, 2016.02.03

Chair: G. Logan			
08:30	J.C. Fernandez	(20+5 min)	Demonstration & Application of Laser – Driven Ion Beams with Narrow-Energy Spread
08:55	M. Roth	(20+5 min)	Isochoric heating of compressed matter and the progress of proton fast ignition
09:20	A. Kleinschmidt	(20+5 min)	Maximum proton energy above 85 MeV from the relativistic interaction of laser pulses with micrometer thick CH <sub>2</sub> targets
09:45	P. Sperling	(20+5 min)	Free-electron x-ray laser measurements in isochorically heated warm dense matter
<b>10:10–10:30</b>			<b>Coffee break</b>
Chair:			
10:30	P. Mulser	(15+5 min)	Landau damping for pedestrians: the physics behind
10:50	M.E. Dieckmann	(15+5 min)	A thin-shell instability in collisionless plasma
11:10	A. Bret	(15+5 min)	Theory of the formation of a collisionless shock
11:30	M. Veysman	(15+5 min)	Reflectivity of dense plasmas in wide frequency range
11:50	F. García-Rubio	(15+5 min)	Plasma Expansion into Vacuum with an Arbitrarily Oriented External Magnetic Field
12:10	P. Bischoff	(15+5 min)	Generalized ponderomotive force from Poincaré-Cartan invariant
<b>12:30–16:00</b>			<b>Lunch break</b>
<b>16:00-16:30</b>		<b>Conference Business Meeting</b>	
<b>16:00–17:45</b>		<b>Poster session</b>	
<b>20:00</b>			<b>Conference dinner at Hotel Birkenhöhe</b>

## Thursday, 2016.02.04

Chair:			
<b>08:30</b>	J. Thomas	(15+5 min)	Theory of electron acceleration in tailored plasmas
<b>08:50</b>	C. Roedel	(15+5 min)	Weibel instabilities in relativistic laser plasma interactions in solid-density hydrogen jets
<b>09:10</b>	P. Thanh Luu	(15+5 min)	Electron acceleration in periodic structures
<b>09:30</b>	D. Jahn	(15+5 min)	Generation of intense sub-nanosecond proton bunches with the laser-driven LIGHT beamline
<b>09:50</b>	Y. Maron	(15+5 min)	Zeeman Effect Induced by Intense Laser Light
<b>10:10–10:30</b>			<b>Coffee break</b>
Chair:			
<b>10:30</b>	J. Meyer-ter-Vehn	(15+5 min)	On Coulomb scattering in plasma. Request for high-precision ion beam stopping experiments.
<b>10:50</b>	W.A. Cayzac	(15+5 min)	Energy loss of light ions at the maximum of the stopping power in a laser-generated plasma
<b>11:10</b>	B. Rethfeld	(15+5 min)	Time-resolved modeling of ultrafast laser-excited semiconductors and dielectrics
<b>11:30</b>	K. Khishchenko	(15+5 min)	Multiphase equation of state for silica at high energy densities
<b>11:50</b>	N. Medvedev	(15+5 min)	Tracing thermal and non-thermal phase transitions in solids with pump-probe scheme
<b>12:10–17:00</b>			<b>Lunch break</b>
Chair:			
<b>17:00</b>	I. Iosilevskiy	(20+5 min)	Peculiarities of retrograde adiabatic WDM expansion via non-congruent phase transition area
<b>17:25</b>	A. Schönlein	(15+5 min)	Generation and characterization of Warm Dense Matter isochorically heated by laser-induced relativistic electrons in a wire target
<b>17:45</b>	D. Casas	(15+5 min)	Laser-accelerated protons for Warm Dense Matter studies
<b>18:05</b>	C.V. Meister	(15+5 min)	Structure factors in Warm Dense Matter and its influence on transport coefficients
<b>18:25</b>	V. Kaymak	(15+5 min)	Strong Pinch Generation in Nanowires
<b>18:45</b>	M. Goughlan	(15+5 min)	Observing interactions of Laser-driven Ion bursts with crystals and glasses.
<b>19:05</b>			<b>Dinner</b>

## Friday, 2016.02.05

Chair:			
<b>08:30</b>	V. Efremov	(20+5 min)	Evolution of damages in silicon dioxide under intense laser action
<b>08:55</b>	M. Taylor	(15+5 min)	Ultrafast laser driven proton damage in condensed matter
<b>09:15</b>	R. Baggott	(15+5 min)	Modifications of Bound States in Dense Plasmas
<b>09:35</b>	C. Lin	(15+5 min)	Quantum master equation approach for spectral line profiles in a plasma
<b>10:55–10:10</b>			<b>Coffee break</b>
Chair:			
<b>10:10</b>	S. Rykovanov	(15+5 min)	Towards Compact Compton Sources
<b>10:30</b>	D. Seipt	(15+5 min)	Laser-assisted x-ray Compton scattering
<b>11:50</b>	S. Kuschel	(15+5 min)	Background-free ionization injection in LWFA
<b>11:10</b>	D. Hollatz	(15+5 min)	Passive plasma lensing of LWFA electrons
<b>11:30</b>	G. Marrero	(15+5 min)	A Single Beam Optical Levitation Trap for Liquid, Micron-Sized Droplets
<b>11:50</b>	S. Tietze	(15+5 min)	Generating isolated XUV pulses from surface harmonics using few-cycle carrier envelope phase controlled laser pulses
<b>12:10</b>	<b>Concluding remarks</b>		

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**Poster Session**

01	Afeyan, Bedros	Kinetic electrostatic electron nonlinear (KEEN) waves and their interactions in Vlasov Plasmas including pair plasma KEEPn waves
02	Andreev, Nikolay	Secondary sources of high energy particles and X-rays in the laser-matter interactions
03	Barriga-Carrasco, Manuel	Calculations on charge state and energy loss of argon ions in carbon plasmas
04	Bogdanov, Anton	Numerical simulation of 247 MeV proton microscope
05	Coughlan, Mark	Dynamics of Lithium Niobate irradiated by ultrafast Proton pulses
06	Donnelly, Hannah	High Harmonic Generation from Solid Targets
07	Ehret, Michael	Proton beam transport in intense magnetic fields in fusion plasmas
08	Faik, Steffen	New laser energy deposition algorithm for the radiation hydrodynamics code RALEF-2D
09	Ruhl, Helmut	Photon-photon interaction below the Schwinger field
10	Herzing, Christian	Radiative Molecular Dynamics Simulations
11	Hilbert, Vinzenz	Equilibration dynamics and conductivity of warm dense hydrogen
12	Lei, Bifeng	Betatron x-ray source from laser-plasma interaction
13	Panyushkin, Vsevolod	Remagnetization of PMQ lenses for PRIOR and PUMA facilities
14	Rosmej, Olga	WDM created by laser interaction with mass limited and structured targets
15	Rosmej, Sebastian	Transport phenomena in warm dense matter including T matrix effects
16	Schanz, Victo	Third Order Autocorrelator for Temporal Contrast Measurement at Laser system PHELIX
17	Shutko, Yulia	Beam Induced Fluorescence (BIF) monitor development
18	Stroev, Nikita	The research of noncongruent phase transitions in Coulomb systems based on the modified model of the binary ionic mixture

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19	Sugita, Kei	Alternative High Field sc Magnets for a Final Focusing System with Large Aperture High Gradient Quadrupoles
20	Weih, Simon	Pepperpot emittance measurements for LIGHT beam characterization
21	Wünsche, Martin	

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