38th International Workshop on High Energy Density Physics with Intense Ion and Laser Beams

January 28th - February 2nd, 2018

Darmstädter-Haus (Waldemar Petersen Haus)

Hirschegg, Austria

P r o g r a m

Monday (January 29)

Start	Duration	Speaker	Title
Session 1: FAIR (Chair: Hoffmann)			
9:00	00:10	Neumayer/Hoffmann	Opening
9:10	00:25	SPILLER, Peter	Statuts of FAIR Subproject SIS100 and SIS18
9:35	00:20	GOLUBEV, Alexander	Status of the HED@FAIR collaboration
9:55	00:20	NEFF, Stephan	High Energy Density Science at FAIR – Experimental facilities for HED and WDM experiments
10:15	**00:30**	**Coffee break**	
Session 2: Theory / Lab-Astro (Chair: Ruhl)			
10:45	00:15	COBOS CAMPOS, Francisco	Velocity fields generated behind rippled shocks and rarefaction waves
11:00	00:15	PIRIZ, Sofia	A threshold for the Rayleigh-Taylor instability in accelerated elastic-solid slabs
11:15	00:15	PIRIZ, Antonio R.	Rayleigh-Taylor instability in an accelerated viscous layer
11:30	00:15	BRET, Antoine	Collisional and collisionless issues in shock physics
11:45	00:15	DIECKMANN, Mark Eric	Laminar MHD-type shocks in particle-in-cell simulations
12:00	00:15	SADYKOVA, Saltanat	Does the shock wave in a highly ionized non-isothermal plasma really exist ?
12:15		**Lunch break**	
Session 3: Inertial Confinement Fusion (Chair: Glenzer)			
17:00	00:25	PATEL, Pravesh	Progress in the Ignition Campaign on the NIF
17:25	00:20	XIE, Xufei	First Measurement of the Absolute Radiation Flux from the Capsule within a Spherical Hohlraum at the SGIII-prototype Facility
17:45	00:15	LI, Zhichao	Thomson-scattering measurements of gas-filled hohlraum plasmas on Shenguang laser facilities
18:00	00:15	LOGAN, B. Grant	Revisiting the X-target for proton fast ignition
18:15	00:15	MARON, Yitzhak	Investigation of the current distribution and compression of Magnetized-Plasma
18:30	00:15	SCHOENBERG, Kurt	Plasma behavior during volumetric compression with thermal transport
18:45	00:15	YANG, Zhenghua	Development of high energy monochromatic spherical bent crystal imaging in LFRC
19:00		**Dinner**	

Tuesday (January 30)

Start	Duration	Speaker	Title
Session 4: Laser Acceleration I (Chair: Murakami)			
8:30	00:15	MIMA, Kunioki	Laser driven ion accerelation and neutron source
8:45	00:15	LIU, Bin	Ion trapping in laser-driven near-critical relativistic-transparent plasma
9:00	00:15	KÜHL, Thomas	Laser Nuclear Physics Using Gas Jet
9:15	00:15	PAUW, Viktoria	Simulation of Laser Driven Ion Acceleration in Mass Limited Targets
9:30	00:15	SAVEL'EV, Andrei	Near threshold nuclear reactions induced by powerful lasers for plasma and beam diagnostics and nuclear photonics
9:45	00:15	ZIMMER, Marc	Laser-Neutron Sources
10:00	**00:30**	**Coffee break**	
Session 5: High Energy Density / Warm-Dense Matter I (Chair: Kraus)			
10:30	00:25	GLENZER, Siegfried	Novel methods in high energy density physics
10:55	00:20	SAUNDERS, Alison	X-ray Thomson Scattering and Radiography from Spherical Implosions on the Omega Laser
11:15	00:15	LIPP, Vladimir	Effect of X-ray-induced electron ballistic transport on the optical properties in silicon. Part I: Ballistic transport
11:30	00:15	TKACHENKO, Victor	Effect of X-ray-induced electron ballistic transport on the optical properties in silicon. Part II: Optical properties
11:45	00:15	ROHATSCH, Katja	Resolving Dynamic Properties of Warm Dense Matter
12:00	00:15	DROMEY, Brendan	Ultrafast ion interactions in SiO2 on the nanoscale: The role of dimension in recovery time
12:15		**Lunch break**	
Session 6: Relativistic laser plasma interaction I (Chair: Pukhov)			
17:00	00:25	RUHL, Hartmut	The concept of hypertubes: A novel radiation reaction force
17:25	00:20	MULSER, Peter	High power laser as a photon generator
17:45	00:15	WENG, Suming	Extreme case of Faraday effect: magnetic splitting of ultrashort laser pulses in plasmas
18:00	00:15	BAGNOUD, Vincent	Studying the dynamics of laser-plasma interaction on thin foils with Fourier-Transform spectral interferometry
18:15	00:15	WATT, Robbie	Simulations of Breit-Wheeler pair production experiment
18:30	00:15	HORNUNG, Johannes	Temporally-resolved characterization of the back-reflected-light in relativistic laser-plasma interaction experiments
18:45	00:15	JOCHMANN, Axel	Commercial custom scientific laser systems with ultra-high contrast up to 10 Petawatt peak power
19:00		**Dinner**	

Wednesday (January 31)

Start	Duration	Speaker	Title
Session 7: High Energy Density / Warm-Dense Matter II (Chair: Neumayer)			
8:30	00:20	KRAUS, Dominik	Formation of diamonds in laser-compressed hydrocarbons at planetary interior conditions
8:50	00:20	EFREMOV, Vladimir	Key physical processes of silica fracture under intense laser irradiation
9:10	00:20	IOSILEVSKIY, Igor	Binodal layer and rarefaction shock in adiabatically expanding HEDM
9:30	00:15	DORNHEIM, Tobias	Ab Initio Quantum Monte Carlo Simulations of Warm Dense Electrons
9:45	00:15	COUGHLAN, Mark	Observing Dynamics of Electron Solvation in H2O During Ultrafast Pulsed-ion Radiolysis
10:00	**00:30**	**Coffee break**	
Session 8: Relativistic laser plasma interaction II (Chair: Bagnoud)			
10:30	00:25	LI, Yutong	Strong Terahertz radiation generated in intense laser-foil interactions
10:55	00:20	RYKOVANOV, Sergey	Narrowband Compton Sources at High Laser Intensity
11:15	00:15	YUAN, Xiaohui	Evolving of plasma bubble structure in near-critical-density gas-jet produced by high-contrast ultraintense femtosecond laser pulses
11:30	00:15	ZHAO, Qian	Non-linear ionization injection and optimized beam loading in laser wakefield acceleration under an external magnetic field
11:45	00:15	RUIJTER, Marcel	Analytical solutions for Thomson scattering including radiation reaction
12:00	00:15	BAUMANN, Christoph	Electron dynamics in twisted light modes of relativistic intensity
12:15		**Lunch break**	
16:30		**Conference business meeting**	
17:00		**Poster session**	
20:00		**Conference Dinner at Hotel Birkenhöhe**	

Thursday (February 1)

Start	Duration	Speaker	Title
Session 9: Laser Acceleration II (Chair: Mima)			
8:30	00:15	CHEN, Min	Multistage coupling of laser-wakefield accelerators through curved plasma channels
8:45	00:15	JAHN, Diana	Towards highest proton intensities and first applications within the LIGHT project
9:00	00:15	DING, Johannes	Generation handling and transport of laser-accelerated heavy ion beams within LIGHT
9:15	00:15	RAMAKRISHNA, Bhuvanesh	Laser ion Acceleration from sandwich targets
9:30	00:15	SCHANZ, Victor	High dynamic range, large temporal domain laser pulse measurement
9:45	00:15	KHISHCHENKO, Konstantin	Multiphase equation of state for tantalum at high pressures and temperatures
10:00	**00:30**	**Coffee break**	
Session 10: Ion-plasma interaction / Heavy-ion plasma generation I (Chair: Logan)			
10:30	00:25	XIAO, Guoqing	The new heavy ion beams accelerator facility (HIAF) and the prospects of high energy density physics researches
10:55	00:20	HONRUBIA, Javier	Modelling of laser-driven ion beam-plasma interaction
11:15	00:15	CAYZAC, Witold	Overview on ion stopping power studies at CEA
11:30	00:15	ZHAO, Yongtao	Stopping of laser-accelerated ion beam in a foam-plasma
11:45	00:15	TAHIR, Naeem	High Energy Density Physics Research at FAIR
12:00	00:15	CHENG, Rui	Low energy ion beam platform for ion-plasma interaction
12:15		**Lunch break**	
Session 11: Relativistic laser plasma interaction III (Chair: Y. Li)			
17:00	00:25	PUKHOV, Alexander	Laser absorption in nanostructured targets
17:25	00:20	MURAKAMI, Masakatsu	Generation of ultrahigh field with micro-bubbles
17:45	00:15	ANDREEV, Nikolay	Interaction of relativistic laser pulses with near critical plasma
18:00	00:15	KAYMAK, Vural	Ultra-high energy density physics in aligned nanowire arrays
18:15	00:15	ROSMEJ, Olga	Plasma self-emission for diagnostics of the relativistic laser-matter interaction
18:30	00:15	KHAGHANI, Dimitri	Spectroscopic evidence of solid-density hot plasma creation at the PHELIX laser
18:45	00:15	RÖDEL, Melanie	Small Angle Scattering on High Energy Density Plasmas
19:00		**Dinner**	

Friday (February 2)

Start	Duration	Speaker	Title
Session 12: Ion-plasma interaction / Heavy-ion plasma generation II (Chair: Honrubia)			
8:30	00:15	DEUTSCH, Claude	Cluster ion beam fusion in Japan and Elsewhere
8:45	00:15	HAMPF, Raphael	Optical beam diagnostics for high intensity heavy ion beams
9:00	00:15	HOFFMANN, Dieter H. H.	Accelerator Driven High Energy Density Physics
9:15	00:15	XU, Ge	Plasma diagnostics by swift heavy ions
9:30	00:15	CISTAKOV, Konstantin	Study on the theta pinch plasmas for applied as ion stripper on FAIR
9:45	00:15	JACOBY, Joachim	Plasma Jets and Magnetic Mirrors to boost Ignition
10:00	**00:15**	**Coffee break**	
Session 13: High Energy Density / Warm-Dense Matter III (Chair: Golubev)			
10:15	00:15	VEYSMAN, Mikhail	On WDM permittivity with account for electron-phonon interaction, interband transitions and Umklapp processes
10:30	00:15	MINTSEV, Victor	High Explosive Generators of WDM
10:45	00:15	RÖPKE, Gerd	Ionization potential depression and dynamical structure factor in dense plasmas
11:00	00:15	VORBERGER, Jan	DFT-MD simulations for CH under warm dense matter conditions
11:15	00:15	SCHUSTER, Anja Katharina	Neptune and the production of dynamically shock-compressed nanodiamonds from polystyrene
11:30	00:15	NEUMAYER, Paul	Measuring Ionization Potential Depression in heavy-ion heated plasmas at FAIR
11:45	00:15	KETTLE, Brendan	Time resolved X-ray absorption measurements of high energy density matter using broadband X-rays from an electron beam
12:00	00:15	KANG, Wei	First-principles calculation of electronic properties for low/middle Z warm dense matter
12:15		**End**	

Poster session (Wednesday, 17:00-18:30)

1	BRESLIN, Nicole	Ultrafast Dynamics of Liquid Water Irradiated by Picosecond Proton Pulses
2	CHAPMAN, David	Developing a Transport Microphysics Capability for the Hytrac Code in the WDM Regime
3	COLGAN, Cary	*NN*
4	*GAO, Chang*	Validity boundary of orbital-free molecular dynamics method corresponding to thermal ionization of shell structure
5	GROTH, Simon	The Uniform Electron Gas at Warm Dense Matter Conditions
6	JAHN, Diana	Towards highest proton intensities and first applications within the LIGHT project
7	PATRIZIO, Marco	Progress on the development of an actively cooled glass amplifier at PHELIX
8	PECOVER, James	Improvements to the FEOS Equation of State Model and Application to Front Tracking Hydrodynamics
9	RAMAKRISHNA, Kushal	Dielectric response function for warm dense matter states
10	REN, Jieru	Charge transfer process of highly charged ions in plasma
11	TETER, Thomas	Propagation and Leakage of Laser Modes in Plasma Channels
12	ULRICH, Andreas	Energy deposition along ion tracks in liquid argon
13	WAGNER, Christopher	Pulsed power supply
14	ZÄHTER, Sero	Interaction of Relativistic Laser Pulses With Near Critical Plasma
15	ZERBE; Kristina	Comparison of pulsed power supply for dielectric barrier discharge