

39th International Workshop on High Energy Density Physics with Intense Ion and Laser Beams

January 27th - February 2nd, 2019

Darmstädter-Haus (Waldemar Petersen Haus)

Hirschegg, Austria



P r o g r a m

SAVE THE DATE

Shock-wave meeting for PRIOR@FAIR

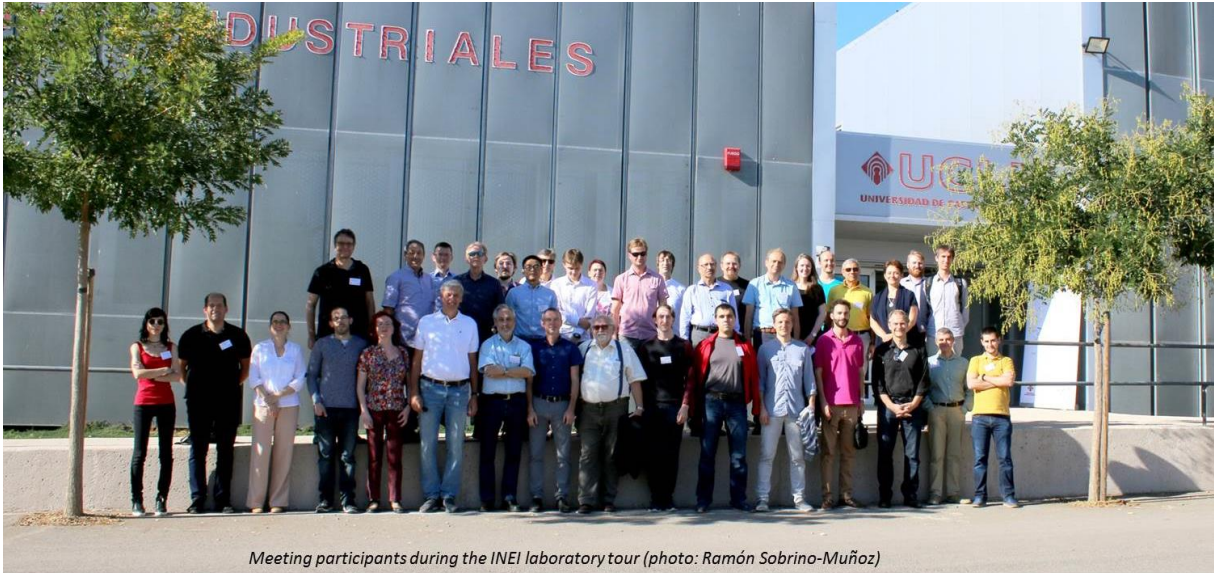
April 24th – 26th, 2019

Freiberg, Sachsen, Germany

HED@FAIR Annual Meeting

June 5th – 7th, 2019

Moscow, Russia



Meeting participants during the INEI laboratory tour (photo: Ramón Sobrino-Muñoz)

Monday (January 28)

Start	Duration	Speaker	Title
Session 1: FAIR (Chair: D.H.H. Hoffmann)			
8:30	00:20	Golubev/Hoffmann	Opening
8:50	00:20	GOLUBEV, Alexander	Status of FAIR (Status of the HED@FAIR collaboration)
9:10	00:20	NEFF, Stephan	Facilities for HED and WDM experiments at FAIR
9:30	00:20	XIAO, Guoquin	Prospect of WDM @ HIAF in Huizhou
9:50	00:20	KAIKANOV, Marat	Recent progress of INURA pulsed ion accelerator scientific program at Nazarbayev University
10:10	00:30	Coffee break	
Session 2: Theory / Lab-Astro (Chair: I. Ioselevskiy)			
10:40	00:20	KLAMMES, Sebastian	Very cold and very short ultra-relativistic heavy-ion bunches from the FAIR SIS100 for plasma physics experiments
11:00	00:20	TAHIR, Naeem Ahmad	High Energy Density Physics Studies at the HED@FAIR Program
11:20	00:20	PIRIZ, Antonio R.	Magneto-Rayleigh-Taylor instability in an elastic slab
11:40	00:20	PIRIZ, Sofia	Magnetic field and elasticity competition effect in magneto-Rayleigh-Taylor instability
12:00	00:20	BRET, Antoine	Density jump as a function of magnetic field for parallel collisionless shocks in pair plasmas
12:20		Lunch break	
Session 3: High Energy Density / Warm-Dense Matter I (Chair: K. Schoenberg)			
17:00	00:20	SPILLER, Peter	Status of FAIR Subproject SIS100 and SIS18
17:20	00:20	EFREMOV, Vladimir	Perspective nanostructured targets for study of matter behavior under high energy ions irradiation
17:40	00:20	ROEPKE, Gerd	Ionization potential depression and Pauli blocking in degenerate plasmas at extreme densities
18:00	00:20	KRASIK, Yakov	Electrical explosion of wires and wires arrays in water and glycerol
18:20	00:20	RAMAKRISHNA, Kushal	Ab-initio dielectric response function of diamond and other relevant high pressure phases of carbon
18:40	00:20	LÖTZSCH, Robert	Measurement of electric fields in dense plasmas via forbidden-line satellites
19:00		Dinner	
20:30		HED@FAIR Collaboration Board meeting	

Tuesday (January 29)

Start	Duration	Speaker	Title
Session 4: PHELIX (Chair: M. Roth)			
8:30	00:30	MAJOR, Zsuzsanna	PHELIX update and current plans to build a beamline to HHT cave at GSI
9:00	00:20	HORNUNG, Johannes	Recent progress on proton acceleration with PHELIX
9:20	00:20	BAGNOUD, Vincent	Operation of PHELIX with random phase plates
9:40	00:20	ROSMEJ, Olga	Generation of super-ponderomotive electrons in interaction of relativistic laser pulses with long scale near critical plasmas.
10:00	00:30	Coffee break	
Session 5: ICF (Chair: A. Piriz)			
10:30	00:20	GLENZER, Siegfried	Resolving the ongoing controversy about the conductivity of warm dense Aluminum
10:50	00:20	CHRISTOPHERSON, Alison	Thermonuclear Ignition and the Onset of Propagating Burn in Inertial Fusion
11:10	00:20	KRASA, Josef	CPA-Laser Pulses for Non-Thermal Initiation of Laser-Boron-Fusion
11:30	00:20	LAN, Ke	Octahedral spherical Hohlraum for Rev. 6 NIF beryllium capsule
11:50	00:20	SCHOENBERG, Kurt	Future Plans for Extreme Matter Research at Los Alamos: the Dynamic Mesoscale Materials Science Capability (DMMSC, formerly known as MaRIE)
12:10		Lunch break	
Session 6: Laser Acceleration I (Chair: V. Bagnoud)			
16:40	00:20	RAMAKRISHNA, Bhuvanesh	Investigation of Kinetic Instabilities in Laser Plasma
17:00	00:20	ZIMMER, Marc	Prospects of Laser Based Neutron Sources for Neutron Resonance Spectroscopy
17:20	00:20	KLEINSCHMIDT, Annika	Towards Neutron Resonance Imaging with Laser-driven Neutron Sources
17:40	00:20	REN, Jieru	Full particle in cell simulation of bremsstrahlung emission in relativistic laser solid interaction: effect of target material and thickness on the angular distribution characteristic
18:00	00:20	MEYER-TER-VEHN, Jürgen	On photon absorption in high-energy-density matter
18:20	00:20	COBOS, Francisco	Linear ripple growth of the contact surface in Richtmyer-Meshkov like flows
19:00		Hüttenabend at Sonna Alp with Dinner	

Wednesday (January 30)

Start	Duration	Speaker	Title
Session 7: Relativistic laser plasma interaction II (Chair: T. Kuehl)			
8:30	00:20	HEGELICH, Bjoern	Manuel First experiments at the 4PW laser at the Center for Relativistic Laser Science
8:50	00:20	ANDREEV, Nikolay	Multistage wakefield electron acceleration to high energies
9:10	00:20	ZÄHTER, Sero	Generation and characterisation of the super-ponderomotive electrons in relativistic laser interaction with near critical density plasmas
9:30	00:20	SAVEL'EV, Andrey	Collimated electron bunches from relativistic laser-plasma interaction at short scale length artificial preplasma
9:50	00:20	KARSCH, Stefan	High-intensity laser-driven electron beams and X-ray sources
10:10	00:30	Coffee break	
Session 8: Heavy ion stopping (Chair: A. Golubev)			
10:40	00:20	ROTH, Markus	A LOEWE international center for nuclear photonics
11:00	00:20	ZHAO, Yongtao	Low energy heavy ion stopping in plasma
11:20	00:20	JAHN, Diana	Achieving highest proton intensities and towards experiments with the LIGHT beamline
11:40	00:20	HE, Bin	Time-dependent simulation of the energy loss experiment for alpha particles moving in discharged H plasmas
12:00	00:20	CHENG, Rui	Low energy ions - plasma interaction at HIRFL
12:20		Lunch break	
17:00	1:30	Poster session	
19:00		Conference Dinner	

Thursday (January 31)

Start	Duration	Speaker	Title
Session 9: Laser Acceleration II (Chair: S. Glenzer)			
8:30	00:20	VEYSMAN, Mikhail	Analytical models for optical and transport properties of metals heated rapidly by laser pulses of arbitrary frequencies
8:50	00:20	PUKHOV, Alexander	Stable Particle Acceleration in Coaxial Plasma Channels
9:10	00:20	OHLAND, Jonas Benjamin	Effects of Low Order Aberrations on Laser beams with Orbital Angular Momentum in the Far field
9:30	00:20	NEUMAYER, Paul	Properties of laser-driven hard x-ray sources over a wide range of laser intensities
9:50	00:20	VORBERGER, Jan	Energy relaxation and electron phonon coupling in laser heated solids
10:10	00:30	Coffee break	
Session 10: High Energy Density / Warm-Dense Matter II (Chair: S. Neff)			
10:40	00:20	IOSILEVSKIY, Igor	On perspectives of HIB experimental study of non-standard unexplored WDM phase transitions
11:00	00:20	NIKOLAEV, Dmitry	Perspectives for novel research of HED matter properties at FAIR
11:20	00:20	KANG, Wei	Electronic properties of warm dense matter for low and medium Z Atoms
11:40	00:20	KHISHCHENKO, Konstantin V	Multiphase equation of state for chromium at high pressures and temperatures
12:00	00:20	SKOBLIAKOV, Alexey	The Monte-Carlo numerical simulation of future experiments for HED at FAIR.
12:20		Lunch break	
Session 11: Laser Acceleration III (Chair: N. Andreev)			
17:00	00:25	TEBARTZ, Alexandra	In Situ Target Creation for Laser-Driven Ion Acceleration
17:25	00:20	WENG, Suming	Plasma-based magneto-optics: magnetic controlling of high-power laser pulses and their interactions with plasmas
17:45	00:20	CSERNAI, Lazlo P.	Radiation dominated implosion with flat, cylindrical target
18:05	00:20	MARON, Yitzhak	Determination of the ion temperature in a high-energy-density plasma using Stark effect
18:25	00:20	METTERNICH, Martin	Energy Loss of Laser-Driven Heavy Ion Beams in Laser-Generated Plasma
19:00		Dinner	

Friday (February 1)

Start	Duration	Speaker	Title
Session 12: Laser Acceleration IV(Chair: Y. Zhao)			
9:00	00:20	ROEDEL, Christian	Angular streaking of high harmonic radiation from relativistically oscillating mirrors
9:20	00:20	WEBER, Sebastian	Electron-phonon coupling in laser-induced nonequilibrium states of solids
9:40	00:20	LEE, Bo Ram	Argon cluster interaction at different gas densities with ultra-intense fs laser pulse at CoReLS
10:00	00:20	ULRICH, Andreas	Experimental concepts for studying particle beam induced light emission
10:20	00:20	HAMPF, Raphael	Optical beam diagnostics for high intensity heavy ion beams
10:40	00:20	KRASIK, Yakov	Self-propagation of an ultra-high power sub-nanosecond microwave beam in neutral gas and preliminarily formed plasma
11:00	00:20	HOFFMANN, Dieter	ACCELERATOR Driven High Energy Density Science - Activation of structural components of high intensity accelerators
11:20		End	

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

1	ZOBUS, Yannik	Upgrade of the PHELIX uOPA fiber amplifier
2	CHRIST, Philipp	Time-resolved interferometric diagnostics on a theta-pinch plasma
3	SADYKOVA, Saltanat	Dispersion relations for the surface wave and the Brewster wave on a surface of a highly absorbing medium
4	ZAHN, Nadiya	Thermoluminescence detector-based 10-channel spectrometer for detection of electrons from relativistic laser-produced plasmas
5	MO, Chongjie	First-Principles Methods for X-ray Thomson Scattering Diagnostics in Warm Dense Matter
6	CHEN, B. Z.	PIC Simulation of Sausage Instability and Kink Instability of Intense Proton Beams in Plasmas
7	LIU, Ruifeng	Generalized photon sieve: fine control of complex field with simple pinhole arrays
8	GAVRILIN, Roman	Ion stopping in hydrogen plasma experiment at linear accelerator at ITEP
9	PAUW, Viktoria	PIC Simulation of Exploding Plasma Microtargets at different densities
10	YU, Xiao	Ablation of plastics by intense pulsed ion beam and its shielding on energy deposition
11	NIKULIN, Dmitry	Electron beam induced emission spectra recorded in the context of optical beam diagnostics
12	RETHFELD, Bärbel	Band Occupation and Optical Response of Gold far from Equilibrium