37th International Workshop on High Energy Density Physics with Intense Ion and Laser Beams

January 29 - February 3, 2017

Darmstädter-Haus (Waldemar Petersen Haus)

Hirschegg, Austria

Program

Monday, 2017 30.01.

Chair: Markus Roth			
09:00	Markus Roth	(10 min)	Opening
09:10	Ulf Zastrau	(20+5 min)	Exploring High-Energy-Density science at X-ray Free Electron Lasers
09:35	Yitzhak Maron	(25+5 min)	Experimental investigation of the development of turbulence in an imploding z-pinch plasma
10:05	Siegfried Glenzer	(20+5 min)	Progress towards determining the physics of warm dense matter found in brown dwarfs
10:30–11:00			Coffee break
Chair: Dieter Hoffmann			
11:00	Kurt Schoenberg	(20+5 min)	Performance limits on magnetized target fusion with metal pushers
11:25	Vincent Bagnoud	(20+5 min)	Operation of PHELIX at high shot rates and plans for FAIR
11:50	Grant Logan	(20+5 min)	Update on NIF and magnetized NIF target development
12:15–17:00			Lunch break
Chair: Kurt Schoenberg			
17:00	Glen Wurden	(15+5 min)	Initial operation of the Wendelstein W7-X Stellarator
17:20	Jan Vorberger	(15+5 min)	The non-equilibrium Structure in WDM
17:40	Konstantin Khishchenko	(15+5 min)	Multiphase equation of state for water at high energy densities
18:00	Sebastian Rosmej	(15+5 min)	Transport properties of partially ionized noble gases
18:20	Bowen Jiang	(15+5 min)	Calculation of structure factor in WDM
18:40	Simon Groth	(15+5 min)	The Uniform Electron Gas at WDM conditions
19:00			Dinner

Tuesday, 2017 31.01.

Chair: Thomas Kuehl			
08:30	Martin Schanz	(20+5 min)	PaNTERA- Proton Therapy and Radiography
08:55	Klaus Werner	(20+5 min)	Radiative opacities in hot star atmosphere plasmas
09:20	Naeem Tahir	(15+5 min)	Compression of iron in LAPLAS experiments and its application to planetary physics
09:40	Victor Schanz	(15+5 min)	Noise reduction in high dynamic range intensity measurements
10:00–10:30			Coffee break
Chair: Alexander Pukhov			
10:30	Hartmut Ruhl	(20+5 min)	Radiation reaction reconsidered
10:55	Igor Kostyukov	(15+5 min)	Electron-positron plasma structures in ultrahigh intensity laser-foil interactions
11:15	Stefan Tietze	(15+5 min)	2D PIC simulations of the attosecond lighthouse effect
11:35	Christoph Baumann	(15+5 min)	Laser-plasma interactions in ultra-intense fields of colliding laser pulses
11:55	Marcel Ruijter	(15+5 min)	Analytical Solutions of Relativistic Nonlinear Compton Scattering
12:15–17:00			Lunch break
Chair: Hartmut Ruhl			
17:00	Alexander Pukhov	(20+5 min)	3D PIC simulations of laser interaction with nanostructured targets
17:25	Viktoria Pauw	(15+5 min)	Simulation of Laser Ion Acceleration with Mass Limited Targets
17:45	Roberto Piriz	(15+5 min)	Entropy shaping by shock decay
18:05	Johannes Ding	(15+5 min)	Generation of intense sub-nanosecond ion beams with the laser-driven LIGHT beamline
18:25	Tobias Dornheim	(15+5 min)	Ab initio quantum monte-carlo simulation of the warm dense electron gas
18:45	Annika Kleinschmidt	(15+5 min)	Laser-driven neutron sources and experiments for possible applications
19:05			Dinner

Wednesday, 2017 01.02

Chair: Vincent Bagnoud			
08:30	Jens Stadlmann	(20+5 min)	Status and timeline of the FAIR project
08:55	Stephan Neff	(20+5 min)	High energy density physics experiments at FAIR
09:20	Abel Blazevic	(20+5 min)	Status, timeline and instrumentation of the APPA cave at FAIR
09:45	Alexander Golubev	(20+5 min)	Russian research interests at FAIR
10:10–10:30			Coffee break
Chair: Vincent Bagnoud			
10:30	Vincent Bagnoud	(20+5 min)	The new collaboration, status, bylaws and membership
10:55 – 12:00 Discussion and founding of the new plasma physics collaboration			
12:15–16:00			Lunch break
16:00--16:30			Conference Business Meeting
16:00 -17:45			Poster session
20:00			Conference dinner at Hotel Birkenhöhe

Thursday, 2017 02.02.

Chair:			
08:30	Yongtao Zhao	(15+5 min)	Progress in the studies of low energy ion beam and plasma interaction and the status of the HIAF project in China
08:50	Andrey Savel'ev	(15+5 min)	Plasma waves, optical harmonics, electron heating and gamma flushes from relativistic laser plasma interaction with preplasma
09:10	Vladimir Efremov	(15+5 min)	Action of intensive energy fluxes on composite materials
09:30	Jürgen Meyer-ter-Vehn	(15+5 min)	On laser ion acceleration in near-critical plasma
09:50	Peter Mulser	(15+5 min)	Fast electron generation by high power laser
10:10–10:30			Coffee break
Chair:			
10:30	Igor Iosilevskiy	(15+5 min)	Entropic phase transition and anomalous thermo-dynamics region in WDM of nitrogen under HIHEX exploring
10:50	Ke Lan	(15+5 min)	First demonstration of improving laser propagation inside the spherical Hohlraums by using the cylindrical laser entrance hole
11:10	Galina Vergunova	(15+5 min)	1D simulation indirect target compression under conditions close to the NIF laser facility
11:30	Masoud Afshari	(15+5 min)	Semi-analytical approaches to study hot electrons in the shock ignition regime
11:50	Antoine Bret	(15+5 min)	Inhibition of collisionless shock formation
12:10–17:00			Lunch break
Chair:			
17:00	Andreas Ulrich	(15+5 min)	Optical measurements of ion beam profiles – status report
17:20	Christoph Maurer	(15+5 min)	Recent results from heavy ion induced desorption measurements
17:40	Claude Deutsch	(15+5 min)	Acceleration of intense cluster ions Si beams on the induction device at KEK
18:00	Thomas Kuehl	(15+5 min)	Selective gas transport of laser produced isotopes
18:20	Saltanat Sadykova	(15+5 min)	A New Scheme for High-Intensity Laser-Driven Electron Acceleration in a Plasma
18:40	Liudmila Noginova	(15+5 min)	Phase transition in local EOS approximation and anomalies of charge spatial profiles in non-uniform plasma thermoelectrostatics
19:00 Dinner and 21:00 Young Scientist Award			

Friday, 2017 03.02

Chair:			
08:30	Masakatsu Murakami	(20+5 min)	Expansion of non-quasi-neutral mass limited plasmas driven by two temperature electron clouds
08:55	Dimitri Khaghani	(15+5 min)	Proton acceleration and high energy density generation by laser irradiation of metallic micro-pillar arrays
09:15	Mikhail Veysman	(15+5 min)	On high-frequency dielectric function with account for electron-phonon interaction
09:35	Shen Zhang	(15+5 min)	Extended Kohn-Sham first-principles molecular dynamics method to consistently study material properties up to several thousand electron volts
09:55–11:10			Coffee break
Chair: Markus Roth			
10:10	Gerd Roepke	(15+5 min)	Ionization potential depression and optical spectra in dense plasmas
10:30	Vladimir Lipp	(15+5 min)	Non-equilibrium dynamics of X-ray excited GaAs
10:50	Nicolay Andreev	(15+5 min)	Laser-driven electron beams for HED applications
11:10	Olga Rosmej	(15+5 min)	Diagnostic of plasmas created in relativistic laser-matter interaction at high laser contrast
11:30	Marco Patrizio	(15+5 min)	Development of an actively cooled glass amplifier at PHELIX
11:50	Markus Roth	(15+5 min)	Laser driven neutron resonance spectroscopy – a temperature diagnostic for WDM?
12:10		Concluding Remarks	

Poster Session Wednesday, 01. 02. 2017, 16:00 – 17:45			
1	Michael	Endres	A light-gas driver for studies on dynamic matter properties with PRIOR
2	Johannes	Hornung	Development of a FROG for time-resolved characterization of relativistic laser-plasma interactions
3	Alexander	Chigvintsev	Phase transition in local EOS approximations and anomalies of charge spatial profiles in non-uniform plasma thermoelectrostatics
4	Claudia-Veronika	Meister	Models of the ion structure factor in warm dense matter
5	Roman	Gavrilin	Development of experimental setup for energy loss measurements in gas-discharge plasmas on TIPr accelerator in ITEP
6	Andrei	Savel'ev	Powerful femtosecond beam shaping with diffractive optical elements
7	Heidi	Reinholz	Comparison between path integral and quantum statistical approaches for Stark broadening in plasmas
8	Karin	Weyrich	The beam matching section in the APPA cave
9	Sero	Zähter	Investigation of the fluorescence radiation of target and projectile generated in heavy ion-matter interaction
10	Konstantin	Cistakov	TBA
11	Andreas	Schönlein	Generation of keV hot plasma in high contrast laser-matter-interaction
12	Dieter	Hoffmann	Ion Beam Fusion and extreme Laser Pulses for Boron Fusion
13	Bifeng	Lei	Resonant laser plasma channel undulator/wiggler
14	Vsevolod	Panyushkin	The quadrupole lenses on permanent magnets for proton microscopy facilities
15	Alexey	Kantsyrev	New elements of data acquisition system for PRIOR and HHT experiments