

Workshop on Plasma Physics at FAIR

Final program (19.06.2017)

Wednesday, June 21st *(Main Lecture Hall of GSI)*

8:15–8:45 Registration

9:00–9:15 Welcome address (V. Bagnoud)

9:15–10:45 HED and Applications – Chair: M. Roth

- ***Matter Under Planetary Interior Conditions (25' + 5')***
 - Ronald Redmer, University of Rostock
- ***Generation and characterisation of warm dense matter in the laboratory (25' + 5')***
 - David Riley, Queens University Belfast
- ***Prospects of high-energy-density research with use of intense heavy ions (25' + 5')***
 - Igor Lomonosov, IPCP RAS, Russia

10:45–11:00 Coffee Break

11:00–12:40 Proton Microscopy – Chair: Kurt Schoenberg

- ***The PRIOR facility (20' + 5')***
 - Dmitry Varentsov, GSI
- ***On Proton Radiography of the Nonideal Plasma of Noble Gases (25' + 5')***
 - Victor Mintsev, IPCP RAS, Russia
- ***Recent Developments of Charged Particle Radiography at Los Alamos National Laboratory (20' + 5')***
 - Frank Merrill, LANL, USA
- ***Investigation of Shock Wave Compressibility of Carbon Fiber and Fiberglass for experiments at PRIOR (15' + 5')***
 - Valentina Mochalova, ITEP of NRC Kurchatov Institute, Russia

13:00–14:00 Lunch Break

14:00–15:45 Plasma Physics Research at other facilities– Chair: Thomas Kühl

- ***Research with intense, pulsed ion beams at Berkeley Lab (25' + 5')***
 - Thomas Schenkel, Lawrence Berkeley National Laboratory, USA
- ***X-ray spectroscopy for Plasma Physics “Day One” experiments at FAIR (20' + 5')***
 - Dimitri Batani, University of Bordeaux, France
- ***Creating and probing dense plasmas at PALS/ELI-Beamlines facilities: applicability to plasma physics program at FAIR (20' + 5')***
 - Libor Juha, Institute of Physics ASCR, Czech Republic

International EMMI Workshop in Plasma Physics at FAIR, GSI Darmstadt, June 21st - 23rd 2017

- ***Prospects of Warm Dense Matter generated by Intense Heavy Ion Beam @ HIAF (20' + 5')***
 - Rui Cheng, Institute of Modern Physics, Lanzhou, China

15:45–17:45 Poster session with Coffee break (*Canteen at BK building*)

18:15–18:45 Bus transfer to Burg Frankenstein

19:00–21:30 Conference dinner at Burg Frankenstein

Thursday, June 22nd *(Main Lecture Hall of GSI)*

9:00–10:40 Ultrafast Plasma – Chair: Paul Neumayer

- **Visualizing the transformation of matter in extreme conditions (25' + 5')**
 - Siegfried Glenzer, SLAC National Laboratory, USA
- **Ultra-high energy density plasmas using nanostructured plasmas (15' + 5')**
 - Alexander Pukhov, University of Duesseldorf
- **Laser accelerated ion bunches as a unique tool for high energy density physics (15' + 5')**
 - Artem Korzhimanov, Institute of Applied Physics of RAS, Russia
- **Spectroscopic analysis of plasmas created in high contrast relativistic laser-matter interaction (15' + 5')**
 - Olga Rosmej, GSI

10:30–11:00 Coffee Break & Conference Photo

11:00–12:55 FAIR facilities – Chair: Abel Blazevic

- **Status of FAIR (25' + 5')**
 - Paolo Giubellino, GSI
- **Facilities for High Energy Density Experiments at FAIR (20' + 5')**
 - Stephan Neff, GSI
- **Status SIS100 – Upgrade SIS18 (15'+5')**
 - Peter Spiller, GSI
- **Progress towards first day experiment diagnostics at FAIR (15' + 5')**
 - Markus Roth, Technical University Darmstadt
- **On theoretical support of FAIR relevant experiments by JIHT of RAS (15' + 5')**
 - Nikolay Andreev, JIHT, Russia

13:00–14:00 Lunch Break

14:00–15:30 Laser-based Plasma – Chair: Christian Spielmann

- **Ionization Measurements in 30-fold Compressed, Near-Degenerate Plasmas (20' + 5')**
 - Tilo Doeppner, Lawrence Livermore National Laboratory, USA
- **Generation of intense radiation over the entire spectrum from intense laser beam-plasma and particle beam interaction (15' + 5')**
 - Peter Mulser, Technical University Darmstadt
- **X-ray spectroscopy for Plasma Physics “Day One” experiments at FAIR (20' + 5')**
 - Dimitri Khaghani, University Jena
- **Nuclear Processes in Dynamic High Energy Density Plasmas (15' + 5')**
 - Dieter H. Schneider, Lawrence Livermore National Laboratory, USA

15:30–16:15 Coffee Break

16:15–18:15 Panel discussion or campus tour

- **16:15–17:30 “Combined Laser-Ion Experiments at HHT”**
- **17:35–18:35 “PRIOR – Drivers and physics”**

18:30–22:00 Workshop dinner (*Canteen at BK building*)

Friday, June 23rd *(Main Lecture Hall of GSI)*

9:00–10:10 HED facilities and support – Chair: Olga Rosmej

- ***Requirements for Dynamic Thermometry on MaRIE: Areas for Collaboration Research (25' + 5')***
 - Kurt Schoenberg, EMMI GSI
- ***Experimental Capabilities of the PHELIX facility (15' + 5')***
 - Stefan Götte, GSI
- ***Generation of Planetary Interior Conditions in the Laboratory Using Intense Heavy Ion Beams at FAIR (15' + 5')***
 - Naeem Tahir, GSI

10:10–10:30 Coffee Break

10:30–11:30 Nanosecond Plasma – Chair: Nikolay Andreev

- ***Hydrodynamic attenuation of shock waves and entropy shaping (15' + 5')***
 - Antonio Roberto Piriz, Universidad de Castilla La Mancha, Spain
- ***Energy Deposition and Wakefield Excitation of Ion Beam Passing through a Plasma Target (15' + 5')***
 - Yongtao Zhao, XJTU & IMP, China
- ***Applications of high resolution X-ray fluorescence spectroscopy for HIHEX-experiments at FAIR (15' + 5')***
 - Andreas Schoenlein, Goethe university Frankfurt

11:30–12:00 Conclusion and Remarks