SATELLITE WORKSHOP - Photon Science

Extreme Conditions Research at DESY

Thursday, 26 January 2017 — **Bldg. 25b, Seminar Room 109**

Extreme Conditions Research at high pressure and simultaneous high and low temperatures continues to grow at DESY. Planetary and materials research at low and moderate temperatures can be performed at the Extreme Conditions Beamline (P02.2) at PETRA III and in future at the Large Volume Press beamline (P61.1) while research in the WDM regime can be performed at FLASH. However, Extreme Conditions Research is also performed more frequently at other beamline of PETRA III. New possibilities for research at both cold compressed and WDM will emerge from DESY's contribution to the HIBEF project located at the HED Instrument of the European XFEL. Furthermore, we are starting to think about the possibilities that a diffraction limited storage ring such as proposed for PETRA IV might offer in the not so far future. Within this satellite meeting we will present ongoing research from different user groups at the different beamline of PETRA III and FLASH, give a status report on the DAC platform at the European XFEL and give an outlook on first scientific ideas that make PETRA IV unique among other small emittance 3rd generation light sources.

Organisers: Hanns-Peter Liermann & Sven Toleikis Contact: hanns-peter.liermann@desy.de

PROGRAMME

14:00	Welcome	S.Toleikis, H.P. Liermann	DESY
	Session 1: Extreme Conditions Research at PETRA III		*Chair: Hanns-Peter Liermann*
14:10	Overview of the current capabilities of the ECB and ECSI	K. Glazyrin	DESY
14:25	Single Crystal Diffraction at High-Pressure and -Temperatures in the Laser Heated DAC	L. Dubrovinsky	BGI
14:40	Conducting Experiments Beyond 4 Mbar with the dsDAC at P02.2 and P06	L. Dubrovinsky	BGI
14:55	***Coffee break***		
15:20	High-Pressure, Low-Temperature work at P09	L. Veiga	DESY
15:35	High-Pressure, Low-Temperature work at P02.2	K. Glazyrin	DESY
15:50	Work in the Paris Edinburgh Press at P02.1	M. Wilke	Uni. Potsdam
16:05	Radial Diffraction Experiments at the ECB	J. Immoor H. Marquardt	BGI
16:20	Phase Transition Kinetic Studies on PPv	Ch. Langrand S. Merkel	Univ. Lille
16:35	Offline synthesis with the 6 piston LVP	T. Katsura	BGI
17:00	***Coffee break***		
	Session 2: Extreme Conditions Research at FLASH		*Chair: S. Toleikis*
17:20	AC conductivity in WDM gold	S. Glenzer	SLAC
17:35	Electrical and thermal properties of isochorically heated water	S. Sperling	European XFEL
17:50	Ultra-fast solid to solid phase transition in diamond	M. Prandolini	HI Jena
	Session 3: Future Development for Extreme Conditions Research at DESY		*Chair: K. Glazyrin*
18:05	Status of the TDR for DAC experiments at the HED instrument of the European XFEL	H.P. Liermann	DESY
18:20	Future Prospects for Extreme Conditions Research at PETRA IV	H.P. Liermann	DESY
18:35	Close-out	S. Toleikis H. P. Liermann	DESY
18:45	*End of Satellite Meeting*		