

Workshop “Science with High-Power Laser Systems at PETRA IV”

22nd - 23rd of February 2022

Tuesday Feb. 22rd		
14:45 – 15:00	Welcome	Ch. Schroer
Session 1: Laser Shock/Ramp Compression in Planetary Science <i>Chair: K. Appel</i>		
15:00 – 15:30	Mimicking the conditions during large impacts in deep inside planets using laser shocks	D. Kraus (Rostock Uni.)
15:30 – 16:00	Shock transformation and deformation of minerals: natural observations and experimental simulation	F. Langenhorst (Uni. Jena)
16:00 – 16:30	Stress and plasticity under shock compression: a case study on iron	A. E. Gleason (Standford)
16:30 – 17:00	Probing liquid silicates using laser-driven shock compression	G. Morad (Uni. Grenoble)
17:00 – 17:30	Discussion and Coffee Break	K. Appel (EuXFEL)
Session 2: Shock compression setups at other x-ray sources <i>Chair: C. Strohm</i>		
17:30 – 18:00	DIPOLE100-X: A high energy laser for dynamic compression experiments at European XFEL	E. Brambrink (HED, EuXFEL)
18:00 – 18:30	The Matter in Extreme Conditions instrument now and in the future	E. Galtier (MEC, LCLS)
18:30 – 19:00	The High-Power Laser Facility at the ESRF	R. Torchio (ESRF)
19:00 – 19:30	Dynamic Compression Sector: Overview, Recent Advances, and Future Enhancements	P. Rigg (DCS, APS)
19:30 – 20:00	Discussion	C. Strohm (DESY)
Wednesday Feb. 23rd		
Session 3: Laser Shock/Ramp Compression in Material and Applied Science <i>Chair: M. McMahon</i>		
15:00 – 15:30	Synthesizing new materials using laser-driven compression at PETRA IV	M. Gorman (LLNL)
15:30 – 16:00	In-situ dynamic (shock/ramp) diffraction using high-power lasers	J. Eggert (LLNL)
16:00 – 16:30	High rate experiments during shocks – some experiences and some possibilities	D. Dye (Imperial College London)
16:30 – 17:00	Material dynamics opportunities for studying defects, interfaces, and heterogeneities at PETRA VI	C. Bolme (LANL)
17:00 – 17:30	High-Resolution X-ray Imaging of Dynamic Processes	A. Schropp (DESY)
17:30 – 18:00	Discussion and Coffee Break	M. McMahon (Uni. Edinburgh)
Session 4: Laser Technology for HE Lasers and ExTRem <i>Chair: I. Hartl</i>		
18:00 – 18:25	DiPOLE – Prospects for Energy & Power Scaling	P. Mason (CLF, STFC)
18:25 – 18:50	Kilojoule lasers for dynamic compression studies	J. D. Zuegel (Uni. Rochester)
18:50 – 19:05	Strategy for kJ Laser upgrade for HiBEF at EuXFEL	T. Cowan (HZDR)
19:05 – 19:30	ExTRem at PETRA IV and possible laser shock compression option	H. P. Liermann (DESY)
19:30 – 20:00	Discussion and Conclusion	I. Hartl (DESY)