



3rd workshop on Studies of Dynamically Compressed Matter with X-rays



Programme



Thursday, 14th January 2021

11:00	Welcome: R. Torchio and H. Reichert	
Session I: Status of HPLF and other dynamic compression opportunities at ESRF Chair: O. Mathon		
11:15 – 11:40	Status of the High Power Laser Facility on ID24	Nicolas Sévelin-Radiguet , ESRF Grenoble, France
11:40 – 12:05	Single pulse experiments on ID09/ESRF for dynamic compression and structural dynamics	Michael Wulff , ESRF Grenoble, France
12:05 – 12:30	Beamline ID19: a versatile station for time-resolved hard X-ray micro-imaging	Alexander Rack , ESRF Grenoble, France
Lunch Break		
Session II: Dynamic compression at the ESRF Chair: M. Mezouar		
14:00 – 14:30	Single-shot XAS on laser shock compressed Fe-rich alloys: FeNi, FeSi and Fe oxides	Katja Voigt , HZDR, Germany Alexis Amouretti , IMPMC, France
14:30 – 15:55	X-rays as a probe for dynamic compression experiments	Charles Pépin , CEA-DAM-DIF Arpajon, France
14:55 – 15:20	Application of XPCI to the incipient stages of material failure on ID19	David Chapman , University of Oxford, UK
Break		
Session III: Highlights from other facilities Chair: D. Kraus		
15:30 – 15:55	Dynamic compression response of SiO ₂ at different strain rates	Karen Appel , XFEL, Germany
15:55 – 16:20	Constraints on the crystallization kinetics in shock compressed MgSiO ₃	Jean-Alexis Hernandez , University of Oslo, Norway
16:20 – 16:45	X ray absorption spectroscopy with X-rays from a laser wakefield accelerator	Stuart Mangles , Imperial College London, UK
Break, Speakers' photo		

Session IV: Highlights from other facilities

Chair: P. Loubeyre

17:00 – 17:25	Understanding complex dynamic response through new diagnostic and analysis methods	Minta Akin , LLNL, USA
17:25 – 17:50	Shock induced phase transitions of the Noble metals at the Dynamic Compression Sector	Richard Briggs , LLNL, USA
17:50 – 18:15	New capabilities for EXAFS measurements on the National Ignition Facility	Federica Coppari , LLNL, USA
18:15 – 18:40	The Matter in Extreme Conditions instrument at LCLS	Gilliss Dyer , LCLS, USA

Friday, 15th January 2021

Session V: Future science cases, proposal preparation

Chair: G. Fiquet

10:30 – 10:55	GeO ₂ under dynamic compression: from macroscopic to microscopic characterisation	Tommaso Vinci , LULI, France
10:55 – 11:20	High pressure investigation of liquid and amorphous systems using X-ray absorption spectroscopy	Paola d'Angelo , Università La Sapienza Rome, Italy

Break

Session VI: Future science cases, proposal preparation

Chair: D. Eakins

11:30 – 11:55	Dynamic fragmentation process involved in brittle solids: towards a better understanding of the relationship between microstructural parameters and strain-rate sensitivity	Pascal Forquin , Université Grenoble Alpes, France
10:55 – 12:20	Behavior of Bulk metallic glasses under laser shock	Didier Loison , Université de Rennes, France

Lunch Break

Session VII: Future science cases, proposal preparation

Chair: F. Dorchie

14:30 – 14:55	Energy transport dynamics observed in warm dense copper using femtosecond time-resolved XANES spectroscopy	Ludovic Lecherbourg , CEA-DAM-DIF Arpajon, France
14:55 – 15:20	HED science with intense heavy-ion pulses at GSI/FAIR	Paul Neumayer , GSI Darmstadt, Germany
15:20 – 15:45	An introduction to First Light Fusion and our studies of matter compressed by projectile impact	Hugo Doyle , First Light Fusion Ltd Oxford, UK
15:45 – 16:20	Application of dynamic compression combined with X-ray diagnostics to geophysics and planetary science	Guillaume Morard , ISTerre Grenoble, France

Round Table (16:30 – 18:15)

Chair: R. Torchio

Group photo

- HPLF-I: day-1 parameters and target requirements - **R. Torchio/M. Harmand (16:30 – 16:50)**
- Shock diagnostics for HPLF-I - **A. Sollier (16:50 – 17:10)**
- Scientific proposals for HPLF-I, topics proposed by the speakers, others - **A. Ravasio (17:10 – 17:30)**
- Plans on ID09 and HPLF-II - **M. Levantino (17:30 – 17:50)**
- Shock-BAG partners for ID19 - **A. Rack and D. Eakins (17:50 – 18:10)**

18:15

Concluding Remarks: R. Torchio