Warm Dense Matter 2025 Agenda

time	Monday, April 14	Tuesday, April 15	Wednesday, April 16	Thursday, April 17	Friday, April 18	time
8:50		welcome				8:50
9:00		Celliers: A Historical Perspective on Warm Dense Matter as an Experimental Science (plenary)	Militzer: Phase Separation of Planetary Ices and Implications for the Magnetic Field Generation on Uranus and Neptune (plenary)	Bonitz: Toward predictive first-principles simulations of warm dense matter (plenary)	Dyer: Warm Dense Matter Science at LCLS (invited)	9:00
9:10						9:10
9:20						9:20
9:30					Zastrau: HED-HIBEF at the European XFEL: Recent results in the Warm Dense Matter science (invited)	9:30
9:40						9:40
9:50		Ao: X-ray diffraction of warm dense matter on Sandia's Z-Machine	de Villa: Superionicity in Planetary Ices as a Bridge to Ice Giant Dynamos (invited)	Blanchet: First-principles molecular-dynamics equation of state of liquid to dense plasma iron		9:50
10:00					Yabuuchi: Experimental Capabilities for Wam Dense Matter Research at SACLA XFEL Facility (invited)	10:00
10:10		Benuzzi Mounaix: Microscopic and macroscopic properties of Glassy GeO2 under Warm Dense Matter conditions (invited)		Weens: Investigations on self-consistent field convergence in orbital-free molecular dynamics: old and new ideas		10:10
10:20			AM break			10:20
10:30		AM break		AM break	AM break	10:30
10:40			Idini: H-He and the extension of Jupiter's dilute core (invited)			10:40
10:50		Brygoo: Experimental progress at the LMJ-PETAL facility (invited)		Starrett: Not So Averaged Atom Models (invited)	Pandolfi: Atomistic view of shock-compressed matter at XFEL facilities (invited)	10:50
11:00						11:00
11:10			Lee (Geun Woo): Multiple crystallization pathways on ice VI (invited)			11:10
11:20		Revello: Investigation of Aluminium and Copper in the Warm Dense Matter Regime using a Pulsed Power Facility		Soubiran: An ab initio study of silicon dioxide in the warm dense matter regime	Antoine: Characterization of Non-Thermal Phase Transitions in MgO and NaCl with Two-color Ultrashort X-ray Pulses	11:20
11:30						11:30
11:40		Cordova: Simultaneous measurement of ionization in warm dense copper aluminum alloy using x-ray absorption and fluorescence	Lütgert: In-situ Temperature Measurements of Warm Diamond using X-Ray Thomson Scattering	Rassou: Numerical modeling of isochoric heating experiments using the code Troll in the warm dense matter regime	Lee (Hae-Ja): Understanding of hot dense iron plasmas isochorically heated by XFEL using X-ray emission spectroscopy	11:40
11:50						11:50
12:00		Kinney: Bremsstrahlung Emission in Strongly Coupled Plasmas	Boehme: Evidence of free-bound transitions in warm dense matter and their impact on equation-of-state measurements	Dong: Thermodynamic gaps in equations of states for hypervelocity impact warm dense matter and plasma production	Yoneda: Frequency stabilized x-ray laser with composite crystal terget	12:00
12:10						12:10
12:20		lunch	lunch	lunch	lunch	12:20
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13:40		Lazicki: Experimental constraint of carbon and oxygen equation of state and ionization under the conditions in the envelopes of white dwarf stars (invited)	Gonzalez: Exploring the Metastability of Carbon and the Pathway to BC8 Post-Diamond Phase (invited)	Tran: Full-potential treatment for multiple-scattering calculation of hot dense plasma opacity	Dorchies: Investigation of non-equilibrium warm dense matter at the femtosecond scale with time-resolved XANES (invited)	13:40
13:50						13:50
14:00				Stanek: Uncertainty Quantification of Transport Coefficient Datasets in Simulations of Warm Dense Matter		14:00
14:10		Springstead: Radiation Drive Designed to Extend the Pressure Ranges Measured in Gbar Equation of State Experiments at the	Wegert: Observing the Evolution of Proton-Heated Foam Microstructure Using X-Ray Talbot Interferometry		Griffin: Inhibited Electron-Ion Equilibration and Bond Hardening in Warm Dense Gold	14:10
14:20				Tacu: Low frequency opacities of warm dense matter		14:20
14:30		Millot: Quantifying Shock-Front Non-Uniformities in Wetted Foams with 2D VISAR	Hesselbach: X-ray absorption spectroscopy of heavy-ion heated aluminum at the HHT station of GSI		Krimans: Variational principles for the hydrodynamics of classical strongly coupled plasmas	14:30
14:40				Kasper: Effect of Interatomic Interactions on Opacity in Hot Dense Plasmas		14:40
14:50		PM break	Descamps: Probing extreme states of matter using high resolution inelastic X-ray scattering at hard X-ray free electron lasers (invited)		Zier: Canonical vs microcanonical ensemble for electrons in laser-excited molecular dynamics	14:50
15:00				PM break		15:00
15:10		Valdivia: Shock compression of polymer foams at extreme conditions: High-fidelity description through measurement innovation (invited)			Makait: Non-Markovian Quantum Kinetic Equations for Warm Dense Plasmas	15:10
15:20			free	Kononov: Prospects for experimental inference and improved computational treatments of electron scattering processes influencing conductivity (invited)		15:20
15:30						15:30
15:40						15:40
15:50		Ofori-Okai: Towards benchmark quality measurements of the electrical conductivity of WDM using ultrafast THz radiation (invited)		White (A): Time dependent density functional theory simulations of electronic and ionic response: nonadiabatic Born effective charges,		15:50
16:00						16:00
16:10		White (T): Measurement of interfacial thermal resistance in high-energy-density matter		Johnson: Exploiting Scale Separation with a Quantics Tensor Train Representation		16:10
16:20						16:20
16:30		**Poster 1**		**Poster 2**		16:30
16:40		Briand: Study of the molybdenum solid-plasma transition by femtose		Baalrud: Model for electron-ion scattering in strongly magnetized war		16:40
16:50		Eljizawi: Thermal Transport in Double-Layer Targets Under Ultrafast L		Babati: Mean Force Kinetic Theory Applied to Warm Dense Matter		16:50
17:00	Informal/ Unhosted Reception (HSF lobby)	Grolleau: Femtosecond resolution of the electron energy transport in		Baczewski: Quantum computing and warm dense matter		17:00
17:10		Lee (Hyeon Jin): Effect of Non-thermal Electrons on Optical Propertie		Berrens: A Machine Learning Study of Properties of D2O up to 8 Millio		17:10
17:20		Lee (Changhoo): Observation of the Relativistic Gyromagnetic Effect		Mariscal: Integrating High-Rep-Rate Experiments and Simulations thr		17:20
17:30		Murayam: Ionic transport properties in C–H–O ternary superionicity a		Stramel: Surviving the Entropy Catastrophe: Redefining the Limit of S		17:30
17:40		Shikne: Difference of the optical properties in Cu and Au after ultra-sh		White: Detailed Line Broadening in Warm Dense Plasmas		17:40
17:50		Sung: Investigating the electrical conductivity and dielectric propertie		Bergermann: Nonmetal-to-metal transition in liquid H using DFT and		17:50
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18:50						18:50
19:00				Conference Banquet		19:00
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