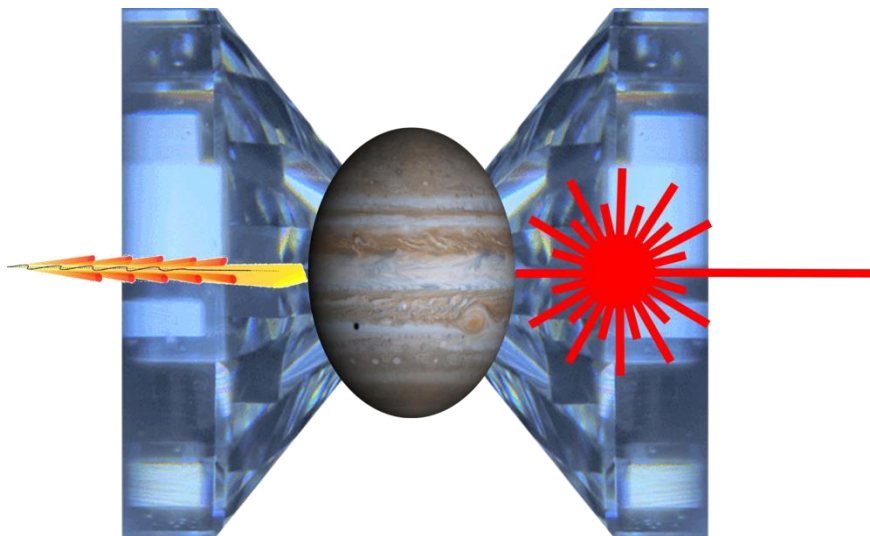


4th Joint Workshop on High Pressure, Planetary and Plasma Physics

(4HP4)

September 23-25, 2015



Bayerisches Geoinstitut
Universität Bayreuth



UNIVERSITÄT
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Conference Program

Wednesday, September 23			Location
12:00	Registration and light lunch		BGI
13:45	Steinle-Neumann	Opening	AI
Session I: Warm Dense Matter and Plasmas Convener: Ronald Redmer			AI
14:00	McWilliams	Warm dense matter on the desktop: Miniaturizing dynamic extremes experiments	
14:30	Gericke	Ionisation Equilibrium in Dense Matter	
14:50	Bethkenhagen	Molecular mixtures at high pressures	
15:10	Zastrau	Exploring dense plasmas at X-ray free electron lasers	
15:30	Coffee break		BGI
Session II: Diagnostics of Dense Plasmas Convener: Alessandra Benuzzi Mounaix			AI
16:00	Monaco	Ion acoustic waves in warm dense matter	
16:30	Appel	Experimental platform for Inelastic X-ray Scattering at the HED science instrument at the European XFEL	
16:50	Redmer	Dynamic ion-ion structure factor in warm dense matter	
17:10	Recoules	Experimental and ab initio investigations of microscopic properties of laser-shocked Ge-doped CH ablator	
17:30	Poster Session Beer and brezels	HIBEF Meeting (18:00, BGI 4.2.03)	BGI

Thursday, September 24			Location
Session III: Giant Planets Convener: Frank Sohl			AI
9:00	Datchi	Simple molecules at planetary conditions: some recent results	
9:30	Nettelmann	Giant planet luminosities, models, and constituent physics	
9:50	Duarte	A parameter study of Jupiter-like dynamo models	
10:10	Kellermann	Modeling interior structures of rocky exoplanets using different equations-of-state	
10:30	Coffee break		BGI
Session IV: Earth's Core Convener: Gerd Steinle-Neumann			AI
11:00	Morard	Study of liquid iron alloys under extreme conditions	
11:30	Wagle	Conductivity of iron along its melting curve	
11:50	Mattesini	Candy Wrapper for the Earth's Inner Core: Bridging Mineral Physics and Seismological Observations	
12:10	Wicht	Explaining lateral differences in inner core structure	
12:30	Lunch break		
Session V: High Pressure Physics Convener: Karl Syassen			AI
14:00	Dubrovinsky	Equations of state of metals from X-ray diffraction data at static pressures above 5 Mbar	
14:30	Guthrie	Neutron science in the megabar regime	
14:50	Schöttler	Free energy model for the high pressure solid phases of carbon	
15:10	French	Construction of a thermodynamic potential for the water ices VII and X	
15:30	Coffee break		BGI
16:00	Laboratory Tours: Multi-Anvil Presses Diamond Anvil Cells Deformation Transmission Electron Microscopy		BGI
19:30	Conference Dinner at Restaurant Goldener Löwe		

Friday, September 25			Location
Session VI: Planetary Mantles Convener: Frank Sohl			AI
9:00	King	Mantle Rheology: Exploring Laboratory and Geophysical Constraints	
9:30	Marquardt	Strength of (Mg,Fe)O ferropericlase at high-pressures and high-temperatures and slab stagnation in the shallow lower mantle	
9:50	Cebulla	High pressure phase diagram of MgO and FeO	
10:10	Petitgirard	Fate of silicate melts at core-mantle boundary conditions	
10:30	Coffee break		BGI
Session VII: Small Planets Convener: Attilio Rivoldini			AI
11:00	Golabek	Early thermomechanical evolution of planetesimals	
11:30	Posner	High P-T diffusion experiments in liquid iron	
11:50	Plesa	Depth-dependence of viscosity and its influence on the Martian mantle dynamics	
12:10	Rückriemen	The curious case of Ganymede's magnetic field	
12:30	Steinle-Neumann Liermann	Concluding Remarks	AI

List of Posters		
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P1	Appel	An upcoming facility for experimental studies of high-energy density states of matter: the HED science instrument at the European XFEL
P2	Baehtz	The HIBEF user consortium
P3	Papagiannouli	Non-resonant Frequency-domain Interferometry for Probing the Phase Transitions of Silicon
P4	Evans	Time-resolved studies of phase transition dynamics
P5	Konopkova	Thermal conductivity measurements in metals at high pressure and temperatures
P6	Liermann	Conceptual Design of the DAC setup for dsDAC and dDAC experiments at the HED instrument of the European XFEL
P7	Mueller	Novel LVP Techniques
P8	Ovsyannikov	Properties of metastable high-pressure polymorphs of manganese oxides
P9	Ovsyannikov	High-pressure high-temperature synthesis of bulk $\text{Si}_{1-x}\text{B}_x$ alloys: two semiconductors form an unusual metal
P10	Bolis	Investigation of the Magnesium Oxide phase diagram
P11	Bouchet	Calculations of phonon spectra from ab-initio MD simulation
P12	Rivoldini	Mercury's thermal evolution and core crystallisation regime
P13	King	Geodynamics of Mercury: MESSENGER spacecraft observations, equation of state, and rheology constraints
P14	Chust	Crystallizing the Martian Magma Ocean
P15	Csizmadia	Observability of shape distortion of exoplanets with future space observatories

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Bayreuth, September 23-25, 2015					
Program short					
Wednesday, September 23		Thursday, September 24		Friday, September 25	
Arrival		9:00	Datchi	9:00	King
		9:30	Nettelmann	9:30	Marquardt
		9:50	Duarte	9:50	Cebulla
		10:10	Kellermann	10:10	Petitgirard
		10:30	Coffee break	10:30	Coffee break
		11:00	Morard	11:00	Golabek
		11:30	Wagle	11:30	Posner
12:00	Registration	11:50	Mattesini	11:50	Plesa
12:00	Light lunch	12:10	Wicht	12:10	Rückriemen
13:45	Opening	12:30	Lunch break	12:30	Conclusion
14:00	McWilliams	14:00	Dubrovinsky	Departure	
14:30	Gericke	14:30	Guthrie		
14:50	Bethkenhagen	14:50	Schöttler		
15:10	Zastrau	15:10	French		
15:30	Coffee break	15:30	Coffee break		
16:00	Monaco	16:00	Lab tours		
16:30	Appel				
16:50	Redmer				
17:10	Recoules				
17:30	Posters				
18:00	HIBEF Meeting	19:30	Conference dinner		



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