



18th International Workshop on Hydrogen Isotopes in Fusion Reactor Materials (HWS-18)

Abbey of Frauenwörth, 83256 Frauenchiemsee, Germany

May 25 to 28 May, 2026

Session overview

	Monday, May 25	Tuesday, May 26	Wednesday, May 27	Thursday, May 28
07:00				
07:30				
08:00		breakfast	breakfast	breakfast
08:30				
09:00		Session 3 = 80min	Session 7 = 80min	Session 9 = 80min
09:30		Experim. methods	Tungsten	Erosion
10:00	ship departure			
10:20	from Gstadt: 11:20	coffee = 30min	coffee = 30min	coffee = 30min
10:50	from Prien: 11:30	Session 4 = 70min	Session 8 = 70min	Session 10 = 70min
11:30		Fundamentals	Breeding	Tritium
12:00	lunch	lunch	lunch	lunch
12:30				
13:00	registration			
13:30	Welcome			ship departure to Gstadt 13:15 to Prien 13:15
14:00	Session 1 = 90 min	Session 5 = 120min		
14:30	Machine results	Displ. damaged W		
15:00	Boron	Neutron damage	outing Herrenchiemsee	
15:30	coffee = 30 min	coffe		
16:00	Boron			
16:30	Session 2 = 120 min	Session 6 = 120min		
17:00	Experim. methods	RAFM steels		
17:30				
18:00	dinner	dinner	dinner	
18:30				
19:00	Poster session	Poster session	Commitee meeting	
19:30				

Program



Monday, May 25

time			location
12:00	Lunch		Klosterwirt
13:00	Registration		
13:45	Welcome		Music room
	Machine results / Boron: <i>chair: Robert Kolasinski</i>		
14:00	Anna Widdowson	In-vessel fuel retention measurements in JET using Laser-Induced Desorption diagnostic tool	
14:20	Wei Xu	Characteristics of deuterium retention during lithium injection in EAST	
14:40	Jeremy D. Mateja	Effect of strike point sweeps on BCD bonds in boron layers applied via glow discharge boronization	
15:00	Guizhong Zuo	Fuel retention characteristics during high parameter plasma discharges with boron coated wall in EAST	
15:30	Coffee		
	Boron: <i>chair: Anna Widdowson</i>		
16:00	Steven Thériault	Deuterium Retention and Surface Characterization of Boron-Based Codeposits Created by Sputter Deposition	
16:20	Joey Demiane	DIONISOS Experiments on Deuterium Permeation Barriers Under Simultaneous Plasma Exposure & Ion Irradiation	
16:40	Discussion		
	Experimental methods: <i>chair: Thomas Schwarz-Selinger</i>		Music room
17:00	Rahul Rayaprolu	Challenges of hydrogen retention diagnostics in nuclear environments	
17:20	Charles A. Hirst	Investigating hydrogen isotope retention in fusion materials through elevated temperature 14 MeV neutron irradiations	
18:00	Dinner		Klosterwirt
19:00	Posters		Music room

Tuesday, May 26

Time		location
8:00	Breakfast	Klosterwirt
	Experimental methods: chair: Kalle Heinola	Aula
9:00	Zejin Shen Using deuterium decoration as a method to learn about defect evolution in tungsten	
9:20	Hazel Gardner Spatial mapping of hydrogen isotopes across length scales in fusion relevant materials	
9:40	Christoph Kawan Simultaneous application of ps-LIBS- and LIA-QMS for in-situ fuel retention analysis	
10:00	Discussion	
10:20	Coffee	
	Fundamentals: chair: Daniel Primetzhofer	Aula
10:50	Udo von Toussaint Measurements of Solubilities and Diffusivities of H and D in recrystallized tungsten	
11:10	Thomas Schwarz-Selinger Measuring the relaxation volume of deuterium in displacement-damaged tungsten	
11:30	Duc Nguyen-Manh Release of Tritium from Oxidised Tungsten: First-Principles based Multiscale Modelling	
12:00	Lunch	
	Displacement and neutron damage: chair: Mikhail Zibrov	Aula
13:30	Sabina Markelj Influence of deuterium retention on damage dose and presence of deuterium at elevated temperatures in tungsten	
13:50	Tomi Vuoriheimo Influence of ion energy on defect stabilization effect in tungsten	
14:10	Liqun Shi Synergistic effects of dual beam irradiation on deuterium retention in plasma facing materials	
14:30	Laurin Hess Hydrogen Isotope Exchange in Vacancy Clusters in Tungsten	Aula
14:50	Yuji Hatano Effects of Re and Cr Additions on Defect Recovery and Deuterium Retention in Neutron-Irradiated Tungsten	
15:10	Discussion	
15:30	Coffee	
	RAFM steels: chair: Sabina Markelj	Aula
16:00	Andreas Theodorou Unveiling trapping mechanisms in EUROFER97: A comparative study of deuterium gas and plasma loading	
16:20	Floriane Montupet-Leblond Investigation of hydrogen trapping in Eurofer97 through multi-isotope MHIMS simulations of TDS	
16:40	Olga Ogorodnikova Correlation of hardening and deuterium retention in radiation-induced defects in Eurofer steel	
17:00	Maria Vrellou Hydrogen Isotope Effects on the Microstructure and Mechanical Behavior of EUROFER97 and ODS EUROFER Before and After Neutron Irradiation	
17:20	discussion	
17:40	Feng-Jen Chang Direct observation of hydrogen on vanadium surfaces by direct recoil spectroscopy	
18:00	Dinner	Klosterwirt
19:00	Posters	Music room



Wednesday, May 27

Time		location
8:00	Breakfast	Klosterwirt
	Tungsten: chair: Yves Ferro	Aula
9:00	Mikhail Zibrov Kinetics of deuterium uptake in self-ion irradiated tungsten	
9:20	Sanjeet Kaur A general trapping-diffusion framework for multiple hydrogen isotopes in multi-occupancy traps	
9:40	Ville Jantunen Hydrogen diffusion in tungsten in the presence of thermal gradients and vacancies gradients and vacancies	
10:00	Discussion	
10:20	Coffee	
	Breeding: chair: Francesco Ghezzi	Aula
10:50	Prashanth Srinivasan Tritium transport in Li, PbLi and Li-V interfaces from machine-learning-based atomistic simulations	
11:10	Ayobami Daramola Towards a Physically Informed Interatomic Potential for Hydrogen Isotopes in Lithium Oxide: Implications for Tritium Migration and Retention	
11:30	Robert D. Kolasinski Effects of high-flux deuterium and helium plasmas on advanced ultra-high temperature ceramics	
11:50	Discussion	
12:00	Lunch	Klosterwirt
13:15	Boat to Herrenchiemsee: Walk + Guided Tour + Museum Ludwig II. (Visit) + Augustinian Monastery (Visit) <i>guided tour starts at New Palace at 15:15</i>	Main pier
17:15	Boat back to Frauenchiemsee	Pier
18:00	Dinner	Klosterwirt
19:15	Meeting of the international HWS committee	Aula



Thursday, May 28

Time		location
8:00	Breakfast	Klosterwirt
	Sputtering: chair: Udo von Toussaint	Aula
9:00	Yi-Lang Mai Study on the Mechanism of Tungsten Deuterium Chemically Assisted Physical Sputtering	
9:20	Tatyana Sizyuk Integrated modeling of the critical processes governing D/T retention in PFMs	
9:40	Discussion	
	Tritium: chair: Yuji Hatano	Aula
10:00	Anete Stīne Teimane Tritium Measurements and Results from Samples Collected During the JET ILW D–D Plasma Campaign	
10:20	Coffee	
	Tritium: chair: Yuji Hatano	Aula
10:50	Kerstin Trost Experimental Investigation of Tritium Contamination and Ozone Decontamination of Beryllium and Tungsten	
11:10	Peter Hannappel Computational Calculation of Hydrogen Isotope Separation Factors in Metal Hydrides	
11:30	Teppeï Otsuka Study on corrosion-induced hydrogen permeation through the steels in pressurized high temperature water by means of the electrochemical method	
11:50	Discussion	
12:00	Lunch	Klosterwirt
13:15	Boats to Gstadt and Prien	Main pier

Confirmed posters:

A) regular posters

P1	Laura Laguardia	Cross Validation of Jump Method and Volumetric Analysis for D ₂ Injection Calibration in JET LID-QMS Experiments
P2	Daniel Primetzhofer	D-D fusion controlled by ion channeling
P3	Vassily Burwitz	Near-Surface Hydrogen-filling Levels of Radiation Defects determined from depth-resolved Positron Annihilation Spectroscopy
P4	Minyou Ye	Hydrogen Isotope Behavior in Tungsten and Tungsten Alloys
P5	Zhe Liu	Kinetic anomalies in thermal desorption of deuterium from proton-irradiated tungsten: beyond the classical Kissinger analysis
P6	Lauren Nuckols	Impact of Neutron Irradiation and Carbon Plasma Impurities on Surface Morphology and Hydrogenic Uptake of W, K-doped W, and TiB ₂
P7	Maria Morbey	Comparing Defect Characteristics and Deuterium Retention in Neutron- and Proton-Irradiated Tungsten
P8	Dylan A. Kohler	Deuterium Retention in Tungsten After High-Temperature Ion Irradiation to 10 dpa
P9	Federica Pappalardo	Influence of upstream pressure and waiting time on hydrogen diffusivity in Eurofer97
P10	James Pittard	A molecular dynamics study of hydrogen diffusion in SS316
P11	Jae-Hwan Kim	Hydrogen isotope retention properties of breeding functional materials for fusion applications
P12	Sophie Stibac	Machine Learning Interatomic Potential for the binary W–Cu system in view of modeling interfaces in ITER monoblocks
P13	Elouen Suard	Plasma-surface interactions: study of hydrogen isotope self-sputtering on clean W(110)
P14	Dominic Batzler	Surface contamination and decontamination studies at Tritium Laboratory Karlsruhe
P15	Matīss Sondars	Evaluation of Tritium Separation Efficiency in Polymer Electrolyte Membranes by Tritiated Water Electrolysis
P16	Yves Ferrot	On the impact of hydrogen decoration on the recombination between vacancies and self-interstitial atoms in tungsten.

B) Add-on posters from oral contributions

T1	Joey Demiane	DIONISOS Experiments on Deuterium Permeation Barriers Under Simultaneous Plasma Exposure & Ion Irradiation
T2	Ze Qin Shen	Using deuterium decoration as a method to learn about defect evolution in tungsten
T3	Hazel Gardner	Spatial mapping of hydrogen isotopes across length scales in fusion relevant materials
T4	Thomas Schwarz-Selinger	Measuring the relaxation volume of deuterium in displacement-damaged tungsten
T5	Sabina Markelj	Influence of deuterium retention on damage dose and presence of deuterium at elevated temperatures in tungsten
T6	Laurin Hess	Hydrogen Isotope Exchange in Vacancy Clusters in Tungsten
T7	Tomi Vuoriheimo	Influence of ion energy on defect stabilization effect in tungsten
T8	Andreas Theodorou	Unveiling trapping mechanisms in EUROFER97: A comparative study of deuterium gas and plasma loading
T9	Mikhail Zibrov	Kinetics of deuterium uptake in self-ion irradiated tungsten