

ICFRM-19 Oral Session Day-by-Day Program

Time	Sunday, October 27, 2019	Monday, October 28, 2019	Tuesday, October 29, 2019	Wednesday, October 30, 2019	Thursday, October 31, 2019	Friday, November 1, 2019	
7:30							
8:00		Registration (8:00 - 11:00)	Registration	Registration	Registration	Registration	
8:30							
9:00		PLENARY SESSION PL1 8:30-10:30 Welcome Address 9:00-9:10 K2: deTemmerman ITER UPDATE 9:10-9:50 P1: Schwarz-Selinger D.TRAPPING 9:50-10:30	PLENARY SESSION PL1 8:30-10:30 P2: Zhang Structural Materials 8:30-9:10 P3: S Dudarev IREMEV Modelling 9:10-9:50 P4: J Chen CFETR 9:50-10:30	KEYNOTE PLENARY SESSION PL2 8:30-10:30 K2: M Manel MAS Report 8:30-9:10 P5: GR Odette ODS Status 9:10-9:50 P6: M Nakamichi Breeding Materials 9:50-10:30	PLENARY SESSION PL3 8:30-10:30 P7: C Garcia-Rosales W Oxidation Protection 8:30-9:10 P8: S Nogami W Mechanical Properties 9:10-9:50 P9: JH You EU DEMO Divertor 9:50-10:30	PLENARY SESSION PL4 8:30-10:30 P10: T Hinoki SiC/SiC Composites 8:30-9:10 P11: Y Katoh PHENIX Summary 9:10-9:50 P12: D Sprouster Synchrotron Methods 9:50-10:30	
9:30	Tutorial Lectures 9:00-1:00 PM (Palatine, Portofino, Aventine C)						
10:00							
10:30							
11:00		Coffee Break (10:30-11:00)	Coffee Break (10:30-11:00)	Coffee Break (10:30-11:00)	Coffee Break (10:30-11:00)	Coffee Break (10:30-11:00)	
11:30							
12:00		RAFM-1 2X30 min 3X20 min	PFM-1 2X30 min 3X20 min	CERAMICS 2X30 min 3X20 min			
12:30							
13:00							
13:30							
14:00		Lunch (13:00-14:30)	Lunch (13:00-14:30)	IEA Vanadium (Palatine) IEA SiC (Portofino)	Lunch (13:00-14:30)	Lunch (13:00-14:30)	
14:30							
15:00							
15:30	Registration 3-7 PM Grand Foyer	Reception Asteria Terrace (5-7 PM)	RAFM-2 2X30 min 3X20 min	PFM-2 2X30 min 3X20 min	FUTURE 2X30 min 3X20 min		
16:00							
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22:00							

Opening Session: MONDAY, October 28, 2019 9:00-10:30 (Chair: N. Ghoniem)

Session	Chair	Presenter	Title	Time
OPENING SESSION	K1	Dr. Greg deTemmerman ITER Organization	ITER UPDATE	9:10 - 9:50
	P1	T. Schwarz-Selinger IPP Garching	TRANSPORT AND RETENTION OF HYDROGEN AND HELIUM IN TUNGSTEN	9:50-10:30

Monday Morning: 3 Parallel Oral Sessions

RAFM-1: Monday Morning, October 28, 2019 11:00-13:00 (Chair: L. Tan)

Session	Chair	Presenter	Title	Time
RAFM-1	I1	K. Field (ORNL) (1a7)	STRUCTURE-PROPERTY RELATIONSHIPS FOR 12-18%Cr ODS AND 9% Cr RAFM STEELS IRRADIATED TO HIGH DOSE (> 40 DPA) AT FUSION RELEVANT TEMPERATURES	11:00-11:30
	I2	H. Tanigawa (QST) (1a24)	NEW INSIGHTS ON THE HARDENING MECHANISMS IN IRRADIATED RAFM STEELS	11:30-12:00
	C1	W. Krauss (KIT) (7b1)	COMPATIBILITY OF RAFM STEELS WITH FLOWING PB-LI EXAMINED IN THE CORROSION TESTING LOOP PICOLO DURING THE LAST DECADES	12:00-12:20
	C2	T. Graening (KIT) (1a28)	IMPACT OF THE CHEMICAL COMPOSITION OF THREE EUROFER97 STEEL VARIANTS ON THE MICROSTRUCTURE BEFORE AND AFTER NEUTRON IRRADIATION	12:20-12:40
	C3	M. Ando (QST) (1a33)	THE μ -TENSILE DEFORMATION BEHAVIOR OF SINGLE BLOCK STRUCTURE OF F82H IRRADIATED AT 573K	12:40-1:00

PFM-1: Monday Morning, October 28, 2019 11:00-13:00 (Chair: A. Hasegawa)

Session		Presenter	Title	Time
PFM-1	I1	J.W. Coenen (FZJ) (2a56)	MATERIALS R&D FOR A 2ND ITER DIVERTOR AND BEYOND: AN OVERVIEW OF AVAILABLE CONCEPTS AND NEW MATERIAL CLASSES	11:00-11:30
	I2	X. Liu (SWIP) (2a28)	PROGRESS OF ADVANCED TUNGSTEN BASE MATERIALS DEVELOPED FOR FUSION APPLICATIONS IN CHINA	11:30-12:00
	C1	L. Snead (Stonybrook) (2b26)	KINETICS OF PROCESSING ADVANCED COPPER ALLOYS FOR GRADED HHF STRUCTURES	12:00-12:20
	C2	Q. Li (IPP) (2b24)	DESIGN AND MANUFACTURING OF FLAT-TYPE W/CU MOCKUP WITH NOVEL HYPERVAPOTRON COOLING STRUCTURE FOR CFETR DIVERTOR	12:20-12:40
	C3	M. Tokitani (NIFS) (1f7)	NOVEL FABRICATION METHOD FOR HIGH HEAT FLUX COMPONENT BY THE MULTI-STEP BRAZING TECHNIQUE	12:40-1:00

CERAMICS: Monday Morning, October 28, 2019 11:00-13:00 (Chair: R. Kasada)

Session		Presenter	Title	Time
CERAMICS	I1	A. Bhattacharya (ORNL) (1c1)	IRRADIATION EFFECTS AND ADVANCED CHARACTERIZATION OF NEUTRON AND ION IRRADIATED TITANIUM DIBORIDE	11:00-11:30
	I2	T. Koyanagi (ORNL) (1c11)	DESIGN AND STRATEGY FOR NEXT GENERATION SILICON CARBIDE COMPOSITES FOR FUSION ENERGY	11:30-12:00
	C1	M. Ferraris (Torino) (1c2)	IRRADIATION STABILITY OF SIC-BASED JOINTS FOR NUCLEAR FUSION APPLICATIONS	12:00-12:20
	C2	T. Nozawa (QST) (1c5)	FAILURE EVALUATION OF NEUTRON-IRRADIATED SIC/SIC COMPOSITES BY UNDERWATER ACOUSTIC EMISSION	12:20-12:40
	C3	T. Nishitani (NIFS) (1c4)	RECENT ACTIVITIES OF IRRADIATION EFFECTS ON DIAGNOSTICS COMPONENTS UNDER THE IEA FUSION MATERIAL COLLABORATION AGREEMENT	12:40-1:00

Monday Afternoon: 3 Parallel Oral Sessions

RAFM-2: Monday Afternoon, October 28, 2019 14:30AM-16:30PM (Chair: H. Tanigawa)

Session		Presenter	Title	Time
RAFM-2	I1	Q. Huang (INEST) (1a6)	DEVELOPMENT AND STRATEGY ON CLAM STEEL FOR ITS ENGINEERING APPLICATION	14:30-15:00
	I2	L. Tan (ORNL) (1a27)	DEVELOPMENT OF CASTABLE NANOSTRUCTURED ALLOYS AS U.S. REDUCED-ACTIVATION FERRITIC-MARTENSITIC STEEL	15:00-15:30
	C1	B. Huang (INEST) (3a1)	JOINING QUALIFICATION AND ADVANCED FABRICATION TECHNIQUE DEVELOPMENT ON FUSION REACTOR BLANKET IN CHINA	15:30-15:50
	C2	YB Chun (KAERI) (1a3)	ENHANCED MECHANICAL PROPERTIES OF ARAA BY TYPE IIIa THERMO-MECHANICAL TREATMENTS	15:50-16:10
	C3	S. Bonk (KIT) (1a34)	ADDITIVE MANUFACTURING TECHNOLOGIES FOR EUROFER COMPONENTS	16:10-16:30

PFM-2: Monday Afternoon, October 28, 2019 14:30AM-16:30PM (Chair: Sergei Dudarev)

Session		Presenter	Title	Time
PFM-2	I1	S. Brezinsek (FZJ) (2a23)	PLASMA-SURFACE INTERACTION IN THE STELLARATOR W7-X OPERATING WITH INERTIALLY COOLED GRAPHITE PLASMA-FACING COMPONENTS	14:30-15:00
	I2	A. Hasegawa (Tohoku Univ.) (5d9)	HELIUM EFFECTS ON RECOVERY AND RECRYSTALLIZATION BEHAVIOR AND TENSILE PROPERTIES OF POWDER-METALLURGICAL PROCESSED TUNGSTEN	15:00-15:30
	C1	M. Shimada (INL) (2a29)	SURFACE ANALYSIS OF SHIELDED AND UNSHIELDED NEUTRON-IRRADIATED POLYCRYSTALLINE TUNGSTEN BY SCANNING AUGER MICROSCOPE	15:30-15:50
	C2	N. Zimmer (KIT) (5d31)	INVESTIGATION OF HIGH-DOSE IRRADIATED BERYLLIUM MICROSTRUCTURE INCLUDING STEM-EELS ANALYSIS OF HELIUM/TRITIUM-BUBBLES	15:50-16:10
	C3	T. Wada (Shizuoka Univ.) (2a18)	INFLUENCE OF DAMAGE DEPTH DISTRIBUTION FORMED BY HYDROGEN ION ON THE DEUTERIUM RETENTION BEHAVIOR IN TUNGSTEN	16:10-16:30

FUTURE ALLOYS: Monday Afternoon, October 28, 2019 14:30AM-16:30PM (Chair: A. Bhattacharya)

Session		Presenter	Title	Time
FUTURE - 1	I1	M. Satou (HIT) (1e2)	INFLUENCE OF ALLOYING ELEMENTS ON STABILITY OF MICROSTRUCTURE AFTER NEUTRON IRRADIATION OF VANADIUM ALLOYS	14:30-15:00
	I2	R. Kasada (Tohoku Univ.) (2b18)	JAPANESE R&D ON ODS-CU FOR DIVERTOR APPLICATION	15:00-15:30
	C1	S. Jiang (SAS) (1e4)	DISSIMILAR-METALS BONDING BETWEEN A LOW-ACTIVATION VANADIUM ALLOY AND HASTELLOY X ALLOY BY EXPLOSIVE WELDING	15:30-15:50
	C2	S. Sakurai (Taiyokoko Co.) (1e6)	EFFECT OF CR AND TI CONCENTRATION ON MECHANICAL PROPERTIES OF LOW-ACTIVATION VANADIUM ALLOYS FOR NUCLEAR FUSION REACTOR	15:50-16:10
	C3	Y. Yang (ORNL) (1f3)	TENSILE AND THERMAL CREEP BEHAVIOR OF A NOVEL COPPER ALLOY FOR FUSION ENERGY APPLICATIONS	16:10-16:30

TUESDAY, October 29, 2019

Plenary Session1

8:30-10:30 (Chair: R. Kurtz)

Session		Presenter	Title	Time
PLEN-1	P2	C. Zhang Tsinghua University	DESIGN AND DEVELOPMENT OF NEW STRUCTURAL MATERIALS FOR FUSION REACTORS	8:30-9:10
	P3	S. Dudarev UKAEA Culham	RECENT PROGRESS IN RESEARCH IN MODELLING FUSION REACTOR MATERIALS IN EUROPE: THE IREMEV COLLABORATION	9:10-9:50
	P4	J. Chen SWIP	MATERIAL CHALLENGES FOR CFETR AND R&D STRATEGIES	9:50-10:30

Tuesday Morning

3 Parallel Oral Sessions

ODS-1: Tuesday Morning, October 29, 2019: 11:00-13:00 (Chair: Y. de Carlan)

Session		Presenter	Title	Time
ODS-1	I1	A. Kimura (Kyoto Univ.) (3a2)	COMPLEMENTARITY IN RAFS/ODSS FUSION BLANKETS	11:00-11:30
	I2	S. Dryepondt (ORNL) (1b1)	LONG-TERM CREEP RESISTANT ODS FeCrAlZr ALLOYS WITH IMPROVED Pb-Li COMPATIBILITY	11:30-12:00
	C1	N. Ordás (CEIT) (1b18)	EFFECT OF HOT ROLLING PARAMETERS ON THE MICROSTRUCTURE AND MECHANICAL PROPERTIES OF ODS FERRITIC STEELS PRODUCED WITH THE STARS ROUTE	12:00-12:20
	C2	L. Song (INEST) (1b5)	A Y-SI-O STRENGTHENED 9CR ODS STEEL DESIGNED FOR HIGH TEMPERATURE APPLICATION IN ADVANCED NUCLEAR REACTOR	12:20-12:40
	C3	Y. Shi (Northeastern Univ.) (1b38)	MICROSTRUCTURE AND MECHANICAL PROPERTIES OF 9CR-ODS ALLOYS PRODUCED BY LASER ADDITIVE MANUFACTURING	12:40-1:00

PFM-3: Tuesday Morning, October 29, 2019: 11:00-13:00 (Chair: F. Gao)

Session		Presenter	Title	Time
PFM - 3	I1	A. Hollingsworth (UKAEA Culham) (5d14)	EXPERIMENTAL AND THEORETICAL STUDY OF HYDROGEN ISOTOPES RETENTION AND RELEASE FROM IRRADIATED FUSION REACTOR MATERIALS	11:00-11:30
	I2	Y. Hatano (Univ. Toyama) (7a11)	ISOTOPE EFFECTS ON HYDROGEN RETENTION, TRAPPING AND PERMEATION IN COPPER-BASED MATERIALS	11:30-12:00
	C1	A. Kreter (FZJ) (2a47)	ENHANCED FUEL RETENTION IN TUNGSTEN PROVOKED BY NITROGEN AS SEEDED SPECIES	12:00-12:20
	C2	E. Bernard (CEA) (5d23)	IMPACT OF W FUZZ ON TRITIUM TRAPPING AND DESORPTION	12:20-12:40
	C3	S. Nakazawa (Shizuoka Univ.) (7c7)	GAMMA-RAY IRRADIATION EFFECT ON DEUTERIUM RETENTION IN REDUCED ACTIVATION FERRITIC/MARTENSITIC STEEL AND CERAMIC COATINGS	12:40-1:00

IRRADIATION FACILITIES: Tuesday Morning, October 29, 2019: 11:00-13:00 (Chair: C. Parish)

Session		Presenter	Title	Time
FACILITIES	I1	T. Muroga (NIFS) (3c3)	USERS' PERSPECTIVE ON D-LI NEUTRON SOURCES (A-FNS and IFMIF-DONES) FOR DEMO AND BEYOND	11:00-11:30
	I2	A. Ibarra (CIEMAT) (3c1)	IFMIF-DONES PROJECT: STATUS AND NEAR FUTURE	11:30-12:00
	C1	W. Leysen (SCK-CEN) (3c10)	FUSION MATERIAL IRRADIATION STATION ON MYRRHA FACILITY: BASELINE CONCEPT	12:00-12:20
	C2	Y. Wu (INEST) (3c5)	NEUTRONICS EXPERIMENTS FOR ADVANCED NUCLEAR SYSTEMS AT HINEG FACILITY	12:20-12:40
	C3	A. Kasugai (QST) (3c2)	PROGRESS OF CONCEPTUAL DESIGN OF ADVANCED FUSION NEUTRON SOURCE A-FNS	12:40-1:00

Tuesday Afternoon: 3 Parallel Oral Sessions

ODS-2: Tuesday Afternoon, October 29, 2019: 14:30AM-16:30PM (Chair: T. Tanno)

Session		Presenter	Title	Time
ODS - 2	I1	J. Henry (CEA) (1b24)	EUROPEAN DEVELOPMENT OF ADVANCED RAFM STEELS AND ODS ALLOYS FOR DEMO	14:30-15:00
	I2	H. Abe (Univ. Tokyo) (1b6)	ON THE STABILITY OF OXIDE/CARBIDE NM-SCALE PARTICLES IN ODS AND F82H STEELS UNDER IRRADIATION; A REVIEW OF IN-SITU OBSERVATION STUDIES IN HVEM	15:00-15:30
	C1	K. Kruska (PNNL) (1b31)	STABILITY OF OXIDE PARTICLES IN 14YWT EXPOSED TO NEUTRON IRRADIATION AT 500°C	15:30-15:50
	C2	H. Kim (TAMU) (1b9)	MICROSTRUCTURAL EVOLUTION IN HELIUM PRE-IMPLANTATED DUAL-PHASE 12CR OXIDE DISPERSION STRENGTHENED ALLOY DURING SELF-ION IRRADIATION TO 100 DPA	15:50-16:10
	C3	N. Oono-Hori (Hokkaido Univ.) (1b30)	STABILITY OF OXIDE PARTICLES IN ODS STEELS UNDER IRRADIATION	16:10-16:30

PFM-4: Tuesday Afternoon, October 29, 2019: 14:30AM-16:30PM (Chair: A. Hollingsworth)

Session		Presenter	Title	Time
PFM - 4	I1	H. Greuner (MP-IPP) (2b9)	INVESTIGATION OF THE THERMAL PERFORMANCE OF NEWLY DEVELOPED EUROPEAN DEMO DIVERTOR TARGET CONCEPTS	14:30-15:00
	I2	A. Shoshin (Novosibirsk Univ.) (2a58)	IN SITU STUDY OF THE PROCESSES OF DAMAGE TO THE TUNGSTEN SURFACE UNDER TRANSIENT HEAT LOADS POSSIBLE IN ITER	15:00-15:30
	C1	E. Gaganidze (KIT) (2d13)	EUROPEAN TUNGSTEN MATERIAL PROPERTY HANDBOOK	15:30-15:50
	C2	M. Wirtz (FZJ) (2a59)	LASER AND ELECTRON BEAM EXPERIMENTS TO QUANTIFY THE THERMAL SHOCK BEHAVIOR OF TUNGSTEN	15:50-16:10
	C3	M. Fukuda (QST) (2b8)	INFLUENCE OF CYCLIC HEAT LOAD ON PURE TUNGSTEN FOR ITER DIVERTOR	16:10-16:30

Advanced Characterization: Tuesday Afternoon, October 29, 2019: 14:30AM-16:30PM (Chair: A. Ibarra)

Session		Presenter	Title	Time
Advanced Charact.	I1	M. J. Lloyd (Oxford) (5b32)	NANOSCALE CHARACTERISATION OF RE/OS PRECIPITATION IN NEUTRON IRRADIATED TUNGSTEN	14:30-15:00
	I2	C. Parish (ORNL) (5e12)	HIGH-THROUGHPUT PHASE-CHEMISTRY MAPPING OF NANO-PRECIPIATES IN RAFM STEELS BY TRANSMISSION KIKUCHI DIFFRACTION AND ANALYTICAL ELECTRON MICROSCOPY	15:00-15:30
	C1	Y. Zhu (Univ. Conn.) (5e14)	ACCELERATING THE UNDERSTANDING OF RADIATION EFFECTS VIA A NEW END-TO-END DEFECT QUANTIFICATION WORKFLOW	15:30-15:50
	C2	P. Warnicke (PSI) (5e18)	EXTENDED X-RAY ABSORPTION FINE STRUCTURE ANALYSIS OF TRANSMUTATION INDUCED RE LATTICE DEFECTS IN IRRADIATED W	15:50-16:10
	C3	W. A. Garcia (UTK) (5e7)	DEPTH DEPENDENT HELIUM AND HYDROGEN CONCENTRATIONS IN MATERIALS MEASURED BY LASER INDUCED BREAKDOWN SPECTROSCOPY AND LASER ABLATION MASS SPECTROMETRY	16:10-16:30

WEDNESDAY, October 30, 2019

Plenary Session2

8:30-10:30 (Chair: C. Henager)

Session		Presenter	Title	Time
PLEN-2	K2	Prof. Michael E. Mauel Dept of Applied Physics, Columbia University	NATIONAL ACADEMY OF SCIENCE FUSION STUDY REPORT	9:10 – 9:50
	P5	G.R. Odette UCSB	CURRENT STATUS OF ODS ALLOYS	9:10-9:50
	P6	M. Nakamichi QST	CURRENT STATUS OF TRITIUM BREEDING MATERIALS	9:50-10:30

Wednesday Morning

3 Parallel Oral Sessions

PFM-5: Wednesday Morning, October 30, 2019: 11:00-13:00 (Chair: M. Sokolov)

Session		Presenter	Title	Time
PFM-5	I1	Y. Oya (Shizuoka Univ.) (7a8)	OVERVIEW OF PHENIX TASK 3 ACTIVITIES FOR TRITIUM BEHAVIOR IN HIGH-TEMPERATURE NEUTRON-IRRADIATED TUNGSTEN	11:00-11:30
	I2	L. Garrison (ORNL) (2b1)	MICROSTRUCTURAL CHANGES IN PLASMA-ARC LAMP HIGH HEAT FLUX EXPOSED NEUTRON IRRADIATED TUNGSTEN	11:30-12:00
	C1	Y. Sugimoto (Shimane Univ.) (2a65)	DEUTERIUM AND HELIUM DESORPTION BEHAVIOR AND MICROSTRUCTURE EVOLUTION IN BERYLLIUM DURING ANNEALING	12:00-12:20
	C2	E. Lang (UIUC) (2a48)	UNRAVELLING THE EFFECTS OF SECOND PHASE PARTICLES ON THE MORPHOLOGY, RETENTION, AND MECHANICAL PROPERTIES OF W ALLOYS UNDER HIGH FLUX D/HE IRRADIATION	12:20-12:40
	C3	Z. Chen (Univ. S&T China) (5d20)	HYDROGEN ISOTOPE RETENTION AND TRANSPORT PROPERTY IN FUSION STRUCTURAL MATERIALS	12:40-1:00

NEW MODELING METHODS: Wednesday Morning, October 30, 2019: 11:00-13:00 (Chair: Y. Osetsky)

Session		Presenter	Title	Time
MOD METHODS	I1	B. N. Nguyen (PNNL) (6c6)	TAILORING MECHANICAL PROPERTIES OF DUCTILE-PHASE TOUGHENED TUNGSTEN COMPOSITES BY A MULTISCALE MICROSTRUCTURAL APPROACH	11:00-11:30
	I2	L. Messina (KTH-RIT) (6c9)	TRANSPORT PROPERTIES OF TRANSMUTATION PRODUCTS IN CONCENTRATED W-RE-OS ALLOYS BY SMART FITTING OF AB INITIO DATASETS	11:30-12:00
	C1	E. Martinez (LANL) (6b20)	ATOMISTIC MODELING OF HELIUM SEGREGATION TO GRAIN BOUNDARIES IN TUNGSTEN AND ITS EFFECT ON DE-COHESION	12:00-12:20
	C2	T. Ooppelstrup (LLNL) (6b42)	LARGE SCALE KINETIC MONTE-CARLO MODELING OF RECRYSTALLIZATION IN TUNGSTEN	12:20-12:40
	C3	F. Gao (Univ. Michigan) (6a3)	MACHINE LEARNING FOR PREDICTING SEGREGATION AND HELIUM BUBBLES AT GRAIN BOUNDARIES IN METALS	12:40-1:00

TRITIUM BREEDING: Wednesday Morning, October 30, 2019: 11:00-13:00 (Chair: A. El-Azab)

Session		Presenter	Title	Time
BREEDING	I1	S. Sharafat (UCLA) (2c1)	CELLULAR BREEDER MATERIALS: A TRANSFORMATIVE CERAMIC SOLID BREEDER FOR FUSION REACTOR BLANKETS	11:00-11:30
	I2	V. Chakin (KIT) (2c13)	TRITIUM AND HELIUM RELEASE FROM BERYLLIUM PEBBLES IRRADIATED UP TO 640 APPM TRITUM AND 6000 APPM HELIUM	11:30-12:00
	C1	P. Vladimirov (KIT) (2c16)	DEVELOPMENT AND CHARACTERIZATION OF ADVANCED NEUTRON MULTIPLIER MATERIALS	12:00-12:20
	C2	S. Waters (Univ. Sheffield) (2c12)	RADIATION DAMAGE AND HELIUM ACCOMMODATION IN LITHIUM METATITANATE CERAMIC BREEDER MATERIALS	12:20-12:40
	C3	I. L. Tazhibayeva (IEA NNC-RK) (2c7)	REACTOR STUDIES OF TRITIUM RELEASE FROM LEAD-LITHIUM EUTECTIC LI15.7PB WITH DEUTERIUM OVER THE SAMPLE	12:40-1:00

Wednesday Afternoon

3 Parallel Oral Sessions

HONORING PROF. BOB ODETTE (SPECIAL SESSION): Wednesday Afternoon, October 30, 2019: 14:30-16:30 (Chair: B. D. Wirth)

Session		Presenter	Title	Time
ODETTE	I1	G. Lucas (UCSB)	ODETTE HISTORICAL OVERVIEW	14:30-15:10
	I2	N. Ghoniem (UCLA)	PLASTICITY OF IRRADIATED MATERIALS AT THE NANO- & MICRO-SCALES REVEALED BY DISLOCATION DYNAMICS SIMULATIONS	15:10-15:40
	I3	T. Yamamoto (UCSB)	MODELING OF HELIUM EFFECTS ON MICROSTRUCTURAL EVOLUTION IN TMS AND NFA: THE EFFECTS OF HE/DPA, TEMPERATURE, DOSE AND DOSE RATE	15:40-16:05
	I4	Y. Dai (PSI)	APT/TEM CHARACTERIZATION OF THE MICROSTRUCTURAL AND CHEMICAL EVOLUTIONS IN RAFM AND ODS STEELS AFTER IRRADIATION AT SWISS SPALLATION NEUTRON SOURCE	16:05-16:30

BULK MATERIALS MODELING: Wednesday Afternoon, October 30, 2019: 14:30-16:30 (Chair: L. Messina)

Session		Presenter	Title	Time
MOD BULK	I1	Y. Osetsky (ORNL) (5a19)	WHAT IS THE MAXIMUM POSSIBLE STRENGTHENING DUE TO LOCALIZED OBSTACLES IN FERRITIC ALLOYS?	14:30-15:00
	I2	S. Hayakawa (Univ. Tokyo) (6b1)	STUDY OF THE STABLE CONFIGURATION OF CASCADE-INDUCED DEFECTS IN FCC METALS USING THE TEMPERATURE PARALLEL SIMULATED ANNEALING WITH SELF-GENERATED BASINS	15:00-15:30
	C1	A. El-Azab (Purdue University) (6b38)	CONTINUUM THEORY OF DEFECTS AS A FRAMEWORK FOR PREDICTIVE MODELING OF RADIATION EFFECTS IN CRYSTALLINE SOLIDS	15:30-15:50
	C2	P-W. Ma (UKAEA Culham) (6b26)	ANISOTROPIC ELASTIC FIELDS OF RADIATION DEFECTS	15:50-16:10
	C3	X-C. Li (IPP CAS) (6b27)	FIRST-PRINCIPLES STUDY ON DISSOLUTION AND DIFFUSION PROPERTIES OF HYDROGEN IN α -AL ₂ O ₃	16:10-16:30

MECHANICAL PROPERTIES: Wednesday Afternoon, October 30, 2019: 14:30-16:30 (Chair: C. Garcia-Rosales)

Session		Presenter	Title	Time
MECH. PROP.	I1	E. Wakai (J-PARC) (5c10)	REVIEWS AND ANALYSIS OF IRRADIATION DAMAGE OF STRUCTURAL MATERIALS AND DESIGN WINDOWS UNDER DIFFERENT IRRADIATION ENVIRONMENTS	14:30-15:00
	I2	M. Sokolov (ORNL) (3d10)	IAEA COORDINATED RESEARCH PROJECT ON SMALL SPECIMEN TEST TECHNIQUES FOR FUSION APPLICATIONS	15:00-15:30
	C1	T. Tanno (JAEA) (5c17)	TENSILE PROPERTY CHANGES OF 11CR FERRITIC/MARTENSITIC STEEL IRRADIATED IN FAST REACTOR JOYO	15:30-15:50
	C2	X. Chen (ORNL) (5c3)	EFFECTS OF NEUTRON IRRADIATION ON FRACTURE TOUGHNESS PROPERTIES OF STANDARD AND NI-DOPED F82H STEELS	15:50-16:10
	C3	C. Yao (PSI) (5c9)	DBTT SHIFT OF FERRITIC/MARTENSITIC AND ODS STEELS AFTER SPALLATION IRRADIATION EVALUATED WITH SMALL PUNCH TESTING	16:10-16:30

THURSDAY, October 31, 2019

Plenary Session3

8:30-10:30 (Chair: J. Marian)

Session		Presenter	Title	Time
PLEN-3	P7	C. García-Rosales CEIT	CURRENT STATUS OF THE DEVELOPMENT OF OXIDATION-RESISTANT TUNGSTEN-BASED ALLOYS FOR FIRST WALL APPLICATION IN FUSION DEVICES	8:30-9:10
	P8	S. Nogami Tohoku University	MECHANICAL PROPERTIES OF TUNGSTEN	9:10-9:50
	P9	J-H. You IPP Garching	STATUS OF TECHNOLOGY R&D AND THE RESULTS OF PRE- CONCEPTUAL EVALUATION OF THE EU DEMO DIVERTOR TARGET CONCEPTS	9:50-10:30

Thursday Morning

3 Parallel Oral Sessions

TUNGSTEN-1: Thursday Morning, October 31, 2019: 11:00-13:00 (Chair: J. W. Coenen)

Session		Presenter	Title	Time
TUN-1	I1	T. Miyazawa (Tohoku Univ.) (1d23)	NEUTRON IRRADIATION EFFECTS ON MECHANICAL PROPERTIES OF TUNGSTEN ALLOYS	11:00-11:30
	I2	J. Trelewicz (Stonybrook Univ.) (1d31)	CONTROLLING STABILITY AND RADIATION TOLERANCE OF TUNGSTEN THROUGH NANOSCALE GRAIN BOUNDARY ENGINEERING	11:30-12:00
	C1	J. Matějčíček (IPP Prague) (1d26)	IRRADIATION EFFECTS ON MECHANICAL PROPERTIES OF SPARK PLASMA SINTERED W-BASED MATERIALS	12:00-12:20
	C2	M. Akiyoshi (Osaka Univ.) (1d2)	THERMAL DIFFUSIVITY OF IRRADIATED TUNGSTEN AND TUNGSTEN-RHENIUM ALLOYS	12:20-12:40
	C3	D. Schwalenberg (FZJ) (1d21)	UPSCALING OF TUNGSTEN-FIBER REINFORCED TUNGSTEN PRODUCTION VIA CVD	12:40-1:00

RADIATION DAMAGE-1: Thursday Morning, October 31, 2019: 11:00-13:00 (Chair: X. Hu)

Session		Presenter	Title	Time
DMG-1	I1	S. Zinkle (UTK) (5a14)	DEFECT PRODUCTION, DIFFUSION AND INTERACTION WITH HE IN IRRADIATED MATERIALS	11:00-11:30
	I2	S. Ohnuki (USTB) (5c8)	ANOMALOUS PHASE SEPARATION IN FE-CR ALLOYS UNDER THREE TYPES OF IRRADIATION	11:30-12:00
	C1	J. Byggmästar (Univ. Helsinki) (5a21)	CASCADE OVERLAP EFFECTS IN IRON AND TUNGSTEN	12:00-12:20
	C2	D. Edwards (PNNL) (5b24)	RESISTANCE TO VOID FORMATION IN ODS ALLOYS IN THE PRESENCE OF IN-SITU HELIUM INJECTION	12:20-12:40
	C3	A. Gentils (CSNSM Paris) (5d34)	THE EFFECTS OF HIGH-DOSE HE AND H ION IMPLANTATION ON THE MICROSTRUCTURAL DEVELOPMENT IN EUROFER-ODS STEEL	12:40-1:00

PSI MODELING: Thursday Morning, October 31, 2019: 11:00-13:00 (Chair: W. Setyawan)

Session		Presenter	Title	Time
MOD PSI	I1	Q. Yu (UCLA) (6b31)	KINETIC MODELING OF HYDROGEN RETENTION IN TUNGSTEN UNDER FUSION CONDITIONS USING SPATIALLY RESOLVED STOCHASTIC CLUSTER DYNAMICS	11:00-11:30
	I2	D. Martin (UTK) (2a50)	LARGE SCALE MD STUDY OF THE EFFECT OF A HELIUM BUBBLE LAYER ON HYDROGEN DIFFUSION IN TUNGSTEN	11:30-12:00
	C1	C. Stihl (KIT) (5d33)	MULTISCALE TRITIUM DESORPTION MODELS FROM (0001) BE SURFACES	12:00-12:20
	C2	M. A. Cusentino (SNL) (6b46)	MOLECULAR DYNAMICS MODELING OF MIXED MATERIALS IN TUNGSTEN USING MACHINE LEARNED INTERATOMIC POTENTIALS	12:20-12:40
	C3	Y. Huang (UCLA) (6a2)	MULTISCALE-MULTIPHYSICS BASED DESIGN OF A SOLID-LIQUID HYBRID DIVERTOR MODULE	12:40-1:00

Thursday Afternoon
3 Parallel Oral Sessions

TUNGSTEN-2: Thursday Afternoon, October 31, 2019: 14:30-16:30 (Chair: J. Trelewicz)

Session		Presenter	Title	Time
TUN-2	I1	T. Höschen (IPP Garching) (1d7)	PRE-CHARACTERIZATION OF WF/W MATERIAL FOR THE EUROFUSION IRRADIATION CAMPAIGN	14:30-15:00
	I2	K. Li (Tsinghua Univ.) (1d33)	CHALLENGES AND ACHIEVEMENTS ON ADDITIVE MANUFACTURING OF TUNGSTEN	15:00-15:30
	C1	E. Tejado (Univ. Polit. Madrid) (1d5)	SELECTIVE LASER BEAM MELTING OF PURE TUNGSTEN: MICROSTRUCTURE AND MECHANICAL BEHAVIOR	15:30-15:50
	C2	M. J. Pfeifenberger (ESI Austria) (1d12)	FRACTURE TOUGHNESS ANISOTROPY OF ULTRAFINE GRAINED TUNGSTEN MATERIALS	15:50-16:10
	C3	F. Fan (SWIP) (1d27)	MECHANICAL PROPERTY AND MICROSTRUCTURE OF W-TA ALLOY PROCESSED BY HIGH ENERGY RATE FORGING	16:10-16:30

RADIATION DAMAGE-2: Thursday Afternoon, October 31, 2019: 14:30-16:30 (Chair: E. Wakai)

Session		Presenter	Title	Time
DMG- 2	I1	M. Klimenkov (KIT) (5b31)	CORRELATION OF MICROSTRUCTURAL AND MECHANICAL PROPERTIES OF NEUTRON IRRADIATED EUROFER97	14:30-15:00
	I2	X. Hu (ORNL) (5b30)	OVERVIEW OF TRANSMUTATION-INDUCED PRECIPITATION IN TUNGSTEN DURING NEUTRON IRRADIATION	15:00-15:30
	C1	W. Jiang (PNNL) (5a6)	DAMAGE ACCUMULATION AND VOID FORMATION IN SELF-ION IRRADIATED TUNGSTEN	15:30-15:50
	C2	Y-R. Lin (UTK) (5b17)	VOID SWELLING IN ION IRRADIATED HIGH-PURITY FE AND FE-CR ALLOYS: PEAK SWELLING TEMPERATURES AND CARBON EFFECT	15:50-16:10
	C4	M. Miyamoto (Shimane Univ.) (5b26)	FORMATION AND MIGRATION OF HELIUM BUBBLES IN REDUCED ACTIVATION FERRITIC/MARTENSITIC STEEL F82H	16:10-16:30

FUSION STARTUP COMPANIES (SPECIAL SESSION): Thursday Afternoon, October 31, 2019: 14:30-16:30 (Chair: L. Snead)

Session		Presenter	Title	Time
FUSION STARTUPS	FS1	A. Mossman General Fusion, Canada	LIQUID METAL LINER COMPRESSION OF A MAGNETIZED PLASMA: DEVELOPMENT PROGRAM AND MATERIALS REQUIREMENTS	14:30-14:55
	FS2	A. Smirnov TAE Technologies, Inc	PROGRESS AND CHALLENGES IN TAE'S QUEST TOWARDS A PRACTICAL FRC-BASED FUSION REACTOR	14:55-15:20
	FS3	Zach Hartwig Commonwealth Fusion	MATERIALS CHALLENGES AND OPPORTUNITIES FOR HIGH-FIELD TOKAMAK POWER PLANTS	15:20-15:45
	FS4	W. M. Solomon GA DIII-D Team	DIII-D RESEARCH TOWARD FUSION ENERGY, CURRENT STATUS AND FUTURE PLANS	15:45-16:10
	FS5	T. P. Davis Davis & Musgrove Ltd., Oxford	MATERIALS STRATEGY FOR FIRST-OF-A-KIND FUSION POWER STATIONS	16:10-16:30

FRIDAY, November 1, 2019
Plenary Session4
8:30-10:30 (Chair: S. Zinkle)

Session		Presenter	Title	Time
PLEN-4	P10	T. Hinoki Kyoto University	DEVELOPMENT AND CHARACTERIZATION OF ADVANCED SIC COMPOSITES FOR FUSION	8:30-9:10
	P11	Y. Katoh ORNL	PROJECT PHENIX FOR TECHNOLOGICAL ASSESSMENT OF PLASMA FACING COMPONENTS FOR DEMO REACTORS: SUMMARY OF MATERIALS RESEARCH ACCOMPLISHMENTS	9:10-9:50
	P12	D. J. Sprouster Stonybrook University	ADVANCED SYNCHROTRON CHARACTERIZATION TECHNIQUES FOR FUSION MATERIALS SCIENCE	9:50-10:30

FRIDAY, November 1, 2019
Technical Tours
14:30-17:00