

GIMRT Joint International Symposium on Radiation Effects in Materials and Actinide Science: GIMRT-REMAS2020

30th Sep.(JST)

Institute for Materials Research, Tohoku University, Sendai, Japan, ONLINE

9:05 - 9:10		Tohoku Univ.	Tadashi Furuhashi	Opening remarks
9:10 - 9:15		Tohoku Univ.	Yasuyoshi Nagai	Introduction of Oarai Workshop
9:15 - 9:20		Tohoku Univ.	Ryuta Kasada	Introduction of REMAS2020, Irradiation 3.0
9:20 - 9:30		Tohoku Univ.	Yusei Shimizu	Announcements from the web conference office
9:30 - 10:10	Chair: S. Kondo	ORNL	Takaaki Koyanagi	Plenary Talk: Additive manufacturing of silicon carbide for nuclear applications
10:10 - 10:20				Coffee break
10:20 - 10:40	Chair: R. Kasada	Tohoku Univ.	Akira Hasegawa	Current research status of neutron irradiation effects on advanced Tungsten alloys
10:40 - 11:00		Toyama Univ.	Yuji Hatano	Deuterium Retention in Irradiated W and W-Re, Cr, Mo and Ta Binary Alloys
11:00 - 11:20		NIFS	Takuya Nagasaka	Re-optimization of composition for vanadium alloys for fusion reactors based on low-activation characteristics and irradiation properties.
11:20 - 11:40		Tohoku Univ.	Shuhei Nogami	Neutron Irradiation Tolerance of Potassium-Doped Tungsten-Rhenium Alloys
11:40 - 12:00		JAEA	Eiichi Wakai	Recent research on the effects of displacement damage and helium atoms on creep properties of austenitic stainless steel using research and test reactors and accelerators for innovated reactor development
12:00 - 13:00				Lunch
13:00 - 13:20	Chair: T. Toyama	Tohoku Univ.	Ryuta Kasada	Ultra-Small Testing Technologies for Irradiated Materials: A key of "Micro-Hot-Laboratory"
13:20 - 13:40		Hokaido Univ.	Naoyuki Hashimoto	Development and study of radiation damage in high entropy alloys for nuclear application
13:40 - 14:00		Fukui Univ.	Kenichi Fukumoto	Irradiation behavior of vanadium alloy with/without temperature transient effect during neutron irradiation using MARICO-II capsule in Joyo
14:00 - 14:20		Chongqing Univ.	Akihiko Kimura	Radiation effects on the EB-weld bonding of ODS ferritic steel —Comparison between neutron and ion irradiation—
14:20 - 14:30				Coffee break
14:30 - 14:50	Chair: K. Yoshida	USTB	Xiaoou Yi	Defect production, hardening and deuterium retention in stage II-III neutron irradiated CVD-W
14:50 - 15:10		Guilin Univ. Electr. Tech.	Miao Lei	Observation of structural imperfectness in thermoelectric materials by advanced analytical microscopy
15:10 - 15:30		York. Univ.	Atsufumi Hirohata	Cross-sectional TEM imaging of NiCrMnSi and CoFe:N alloys for magnetic tunnel junctions
15:30 - 15:50		Russian Academy of Science	Vladimir Alimov	Deuterium release from deuterium plasma-exposed neutron-irradiated and non-neutron-irradiated tungsten samples during annealing
15:50 - 16:00				Coffee break
16:00 - 18:00	Chair: T. Toyama	SCK/CEN	Steven Van Dyck, Patrice Jacquet Bert Rossaert Dmitry Terentyev Inge Uytendhouwen	15 years of MICADO collaboration Status of the BR2 reactor Material irradiations – devices used for MICADO Material irradiations – other existing devices and devices in development Fuel irradiations – existing devices and devices in development Laboratories and PIE Fusion related research RPV related research
18:00 - 19:30				Poster

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1st Oct.(JST)

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9:00 - 9:35	Chair: R. Kasada	KLA Corporation	W.C. Oliver	<i>Plenary Talk:</i> The use of nanindentation as a strength microprobe to investigate properties alterations associated with radiation damage
9:35 - 10:10	Chair: Y. Nagai	UCSB	G Robert Odette	<i>Plenary Talk:</i> Measuring, Modeling and Managing RPV Embrittlement: Low Flux-High Fluence Shift Predictions
10:10 - 10:15				Coffee break
10:15 - 10:35	Chair: K. Yoshida	USTB	Somei Ohnuki	Anomalous phase separation in Fe-Cr alloys under three types of irradiation
10:35 - 10:55		Hokkaido Univ.	Naoko Oono	Radiation-induced microstructure and mechanical property modification in FeCrAl-ODS Alloy after Neutron Irradiation at an Operating Temperature
10:55 - 11:15		Tohoku Univ.	Takeshi Toyama	Microstructural analysis of RPV steels in joint research between SCK.CEN and IMR
11:15 - 11:35		Kyushu Univ.	Hideo Watanabe	Study of radiation induced microstructure of Fe-(Mn,Ni) model alloys under neutron irradiation
11:35 - 11:55		Tohoku Univ.	Sosuke Kondo	Role of SiC dangling bonds in the irradiation assisted corrosion
11:55 - 12:15		NIFS	Arata Nishimura	Neutron Irradiation Effect on Critical Current of Nb3Sn Wire for ITER TF Coil.
12:15 - 13:15				Lunch
13:15 - 13:35	Chair: K. Inoue	Muroran Inst. Tech.	Hirotsu Kishimoto	Investigation of environmental durability of NITE-SiC/SiC Composites under neutron irradiation environments
13:35 - 13:55		JAEA	Tomoaki Suzudo	Cleavage and dislocation emissions in BCC iron: A molecular dynamics study
13:55 - 14:15		Tokyo Univ.	Sho Kano	Radiation-Induced Amorphization of M ₂₃ C ₆ in Reduced Activation Ferritic/Martensitic Steels: An atomic-Scale Observation
14:15 - 14:35		Kyoto Univ.	Toshimasa Yoshiie	The formation of iron nitride, α'' -Fe ₁₆ N ₂ , around <100> interstitial type dislocation loops in neutron-irradiated iron
14:35 - 14:55		JAEA	Takashi Tannno	Development of miniature fracture toughness test technique for thin martensitic steel wrapper tube of fast reactor
14:55 - 15:05				Coffee break
15:05 - 15:25	Chair: Y. Shimada	KEK	Tatsushi Nakamoto	Development of radiation resistant materials for superconducting magnet system for high intensity proton beam line
15:25 - 15:45		NIMS	Yasuo Shimizu	Atom probe analysis of dopant distribution in commercial solar cells
15:45 - 16:05		INSS	Katsuhiko Fujii	Effects of cold work on solute atom clustering during thermal aging in RPV model alloy
16:05 - 16:25		Tohoku Univ.	Kenta Yoshida	In-situ weak-beam STEM for quantitative dislocation analysis in nuclear materials during post-irradiation annealing
16:25 - 16:35				Coffee break
16:35 - 17:30				Discussion for future irradiation plan using BR2
17:30 - 19:00				Poster

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9:00 - 9:10		Tohoku Univ.	Dai Aoki	Introduction of Oarai Workshop on Actinoid Science
9:10 - 9:40	Chair: D. Aoki	UC-Davis	Valentin Taoufik	New compounds with novel type of ferromagnetic quantum criticality
9:40 - 10:00		Kobe Univ.	Hitoshi Sugawara	Study of Electronic States in Multipolar Conductors and Related Materials
10:00 - 10:20		Kobe Univ.	Hisashi Kotegawa	Single crystal growth and NMR studies of Uranium based superconductors and related materials
10:20 - 10:40		Kinki Univ.	Masanobu Nogami	Development of novel cyclic monoamide extractants for selective separation of uranium(VI)
10:40 - 10:50				Coffee break
10:50 - 11:10	Chair: F. Honda	Hokkaido Univ.	Hiroshi Amitsuka	Search for Uranium Compounds with Odd-Parity Cluster Multipole Ordering
11:10 - 11:30		RIKEN, CEMS	Yoshichika Onuki	Single Crystal Growth and Unique Electronic States of Cubic Chiral EuPtSi and Related Compounds
11:30 - 11:50		Ibaraki Univ.	Makoto Yokoyama	Relationship between quantum critical fluctuations and anomalous superconductivity in CeCoIn ₅ and its ionic substitutions
11:50 - 12:10		Kyoto Univ.	Shunsaku Kitagawa	New avenue of outreach activities - how to become a YouTuber -
12:10 - 13:30				Lunch
13:30 - 13:50	Chair: H. Amitsuka	Tohoku Univ.	Dai Aoki	Field-reentrant and multiple superconductivity in UTe ₂
13:50 - 14:10		Osaka Univ.	Koichi Izawa	Nodal structure of UTe ₂ studied by thermal conductivity
14:10 - 14:30		JAEA	Yo Tokunaga	NMR Study of Magnetic Fluctuations in Heavy Fermion Superconductor UTe ₂
14:30 - 14:50		Kyoto Univ.	Kenji Ishida	NMR Study on the Superconducting State of UTe ₂
14:50 - 15:00				Coffee break
15:00 - 15:30	Chair: F. Honda	Tata Inst. of Fundamental Research	Arumugam Thamizhavel	Extremely large magnetoresistance and Fermi surface properties of MoS ₂ and WS ₂ Single crystals
15:30 - 16:00		Charles Univ.	Ladislav Havela	Tuning of the 5f magnetism in U intermetallics by polar bonds
16:00 - 16:15				Coffee break
16:15 - 16:45	Chair: Y. Shimizu	CEA	Georg Knebel	Field Enhancement of Superconductivity in UTe ₂
16:45 - 17:15		CEA	Daniel Braithwaite	The nearly ferromagnetic superconductor UTe ₂ under pressure
17:15 - 17:45		CNRS	Ilya Sheikin	The mystery of CeRhIn ₅ in high magnetic fields

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8:55 - 9:00		Tohoku Univ.	Kenji Shirasaki	Introduction of Workshop of Laboratory of Alpha-Ray Emitters
9:00 - 9:20	Chair: K. Tsukada	Nat. Cancer Centr.	Mitsuyoshi Yoshimoto	Targeted alpha therapy using ²²⁵ Ac-RGD peptide for pancreatic cancer
9:20 - 9:40		Osaka Univ.	Yoshifumi Shirakami	Development of targeted alpha therapy using Actinium-225
9:40 - 10:00		JAEA	Toru Kitagaki	Analysis of the alteration behavior of zircon mineral in the three different pH solutions
10:00 - 10:10				Coffee break
10:10 - 10:30	Chair : T. Yamamura	Shimane Univ.	Gaku Motoyama	Study of Magnetoelectric Effect on Antiferromagnetic Compounds of Ce ₃ TiSb ₅ and Ce ₃ TiBi ₅ with Ce Zig-Zag Chain
10:30 - 10:50		Okayama Univ.	Koji Yoshimura	Novel Production Method of the Lowest-Energy Nuclear State - Thorium-229 Isomer
10:50 - 11:10		RIKEN	Atsushi Yamaguchi	Energy of the Th- ²²⁹ Th nuclear clock isomer determined by absolute γ -ray energy difference
11:10 - 11:20				Coffee break
11:20 - 11:40	Chair: K. Shirasaki	Kyushu Univ.	Kazuya Idemitsu	Diffusion behavior of Pu and Np in bentonite
11:40 - 12:00		Nagaoka Univ. of Tech.	Tatsuya Suzuki	Fundamental Study for Precise Analysis of Actinides in Hardly Soluble Substances Containing Uranium Oxides
12:00 - 12:20		Kyoto Univ.	Chihiro Tabata	Crystal structure and magnetism of uranium phthalocyanine complex
12:20 - 12:40		Tokyo Inst. Tech.	Masahiko Nakase	Relation between ion recognition of f-block elements and polymeric characteristics by extractant-immobilized hydrogel adsorbents
12:40 - 12:50		Tohoku Univ.	Yasuyoshi Nagai	Closing Remarks

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30th Sep. 17:30-19:00(JST)

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Poster Session

P1-1	INSS	Terumitsu Miura	Micro-tensile testing of stainless steel welds
P1-2	NIFS	Jingjie Shen	Effect of post irradiation annealing on irradiation hardening of weld metal of NIFS-HEAT2 (V-4Cr-4Ti alloy)
P1-3	Hokkaido Univ.	Yuji Nobuta	Effects of helium and radiative cooling gas on hydrogen isotope retention in neutron-irradiated tungsten
P1-4	Muroran Inst. Tech.	Naofumi Nakazato	Irradiation Effects of Corrosion Behaviour on fusion materials under high temperature/pressurized water
P1-5	Iwate Univ.	Satoru Kobayashi	Investigation of microstructural changes in a thermally aged Fe-Cu alloy using a magnetic mixing-frequency technique
P1-6	Tokyo Univ.	Hirochika Sumino	Spatial distribution of halogen compositions in the wedge mantle-derived rocks from the Sanbagawa metamorphic belt
P1-7	Shizuoka Univ.	Shota Yamazaki	Evaluation of D retention behavior for damaged W after D plasma exposure
P1-8	Nagoya Univ.	Satoru Miyamoto	Atom probe tomography observation of diffusion behaviors in isotopically controlled silicon nanostructures
P1-9	Kyoto Univ.	Tatsuya Hinoki	Neutron irradiation effect on particle dispersion SiC composites
P1-10	Kyoto Univ.	Kiyohiro Yabuuchi	Irradiation Effect on Fe-Mn alloys
P1-11	Kyusyu Univ.	Kazutoshi Tokunaga	Observation of fatigue induced precracks and evaluation of fracture toughness in an ITER specification tungsten
P1-12	JAEA	Takashi Tanno	Evaluation of nano-sized oxide dispersion condition in ODS steel by atom probe tomography
P1-13	JAEA	Yoosung Ha	Effect of initial properties on irradiation hardening in RPV steel
P1-14	NIFS	Miyuki Yajima	Influence of Radiation Damage Change in Neutron Irradiated Tungsten on Deuterium Retention
P1-15	Tohoku Univ.	Yutaka Ohno	Structural analysis of Si/diamond heterointerfaces fabricated by surface activated bonding using LT-FIB and STEM
P1-16	Tohoku Univ.	Koji Inoue	A challenge to observe segregation of solute atoms on stacking faults in high-entropy alloy by atom probe tomography
P1-17	Tohoku Univ.	Yasuki Okuno	Dosimeter characteristics for gamma rays with high radiation-resistance applying CIS solar cells

1st Oct. 17:30-19:00(JST)

P2-1	Tohoku Univ.	Nozomi Mizumoto	Valence electron state analysis in chromium carbide and borocarbide
P2-2	Tohoku Univ.	Liu Yuchen	Evaluation of irradiation hardening behavior of ODS-Cu based on micro-pillar compression and nano-indentation test
P2-3	Tohoku Univ.	Zhen Gyuyang	Evaluation of Local Mechanical Properties of Electronically Irradiated RPV Steels by Ultra-Microscopic Testing Technique
P2-4	Tohoku Univ.	Wang Haoran	Effect of oxygen concentration and Al content on the corrosion behavior of Fe-Mn-Al-Cr-C type austenitic steels in lead-bismuth eutectic
P2-5	Tohoku Univ.	Yuan Xinwei	The mechanical preoperties of SiC fibers after passive oxidation
P2-6	Tohoku Univ.	Wu Xiangyu	Evaluation of joining strength of explosive welded W/F82H by ultra-small tensile/compression test
P2-7	Tohoku Univ.	Yuki Jimba	Sintering of TiB2 ultra-high temperature ceramics with amorphous Ti, B eutectic alloy additive
P2-8	Tohoku Univ.	Kotaro Seki	Effects of hydrogenation of SiC on the surface passivation
P2-9	Tohoku Univ.	Can Zhao	Investigation of Cu diffusivity in Fe by the combination of atom probe experiments and Monte Carlo simulation
P2-10	Tohoku Univ.	Hotaka Miyata	Direct observation of Cu diffusivity in Pure Iron Grain Boundary by Atom Probe Tomography
P2-11	Tohoku Univ.	Chen Jiao	In situ observation via spherical aberration-corrected transmission electron microscopy of atomic-scale defects in Al thin films
P2-12	Tohoku Univ.	Hidetoshi Kikunaga	Preparation of stock solutions of thorium-229 and Ra-228
P2-13	Tohoku Univ.	Motoi Kimata	Microfabrication of the Uranium Based Spin Triplet Superconductor for High Magnetic Field Experiments
P2-14	Osaka Univ.	Katsuya Ota	Zero-magnetic-field Hall effect in the ferroic toroidal candidate UNi4B
P2-15	Tohoku Univ.	Takatsugu Koizumi	Study of Electronic Properties of Rare-earth and Actinide Compounds under Ultra-high Pressures
P2-16	Kanazawa Univ.	Masaki Nagare	Ternary uranium transition metal carbides
P2-17	JAEA	Wataru Itagaki	Material irradiation technique in Joyo and progress of regulator's safety screening (Tentative)
P2-18	Kyoto Univ.	Ayaki Sunaga	Relativistic study on the linearity of uranyl molecule
P2-19	Kyoto Univ.	Tomoo Yamamura	Hydrothermal synthesis of (U,Np)O2 under subcritical water condition