

Fourth International Workshop on Tritium-Material Interactions

Organized by
Hydrogen Isotope Research Center, University of Toyama

Co-organized by
Grant-in-Aid for Scientific Research for Priority Areas, 476, Tritium Science and Technology for Fusion
Reactor

Program

September 14 (Mon)

9:00-9:10 Opening (Chair: Y. Hatano)

Session 1 (Chair: Y. Hatano)

9:10-9:30	M. Matsuyama (U. Toyama)	Overview of Tritium Research Activities in Hydrogen Isotope Research Center (HRC)
9:30-9:50	P. Calderoni (INL)	An Overview of Research Activities on Tritium-Material Interactions at the INL Safety, Tritium and Applied Research Facility (Invited)
9:50-10:10	M. Yang (CIAE)	The Relative Study on Tritium Material Interactions in CIAE
10:10-10:30	T. Terai (U. Tokyo)	Tritium Behavior in Liquid Breeding Materials
10:30-10:50	D. Masuyama (U. Tokyo)	Modeling of Hydrogen Diffusion in Lithium Lead
10:50-11:10	T. Oda (U. Tokyo)	Modeling of Tritium Diffusion in Solid Breeding Materials

Break (11:10-11:20)

Session 2 (Chair: P. Calderoni)

11:20-11:40	D. -K. Sze (UCSD)	Tritium Control for a High Temperature Blanket (Invited)
11:40-12:00	B. Pint (ORNL)	The Formation and Pb-Li Compatibility of Alumina Grown on Aluminide Coatings
12:00-12:20	T. Chikada (U. Tokyo)	Deuterium Permeation Mechanism in Erbium Oxide Coatings for Tritium Permeation Barrier
12:20-12:40	K. Zhang (U. Toyama)	Functions of Sealing and Densification Processes for Preparation of Tritium Permeation Barriers by Wet-chemical Methods

Lunch (12:40 -13:40)

Session 3 (Chair: T. Oya)

13:40-14:00	T. Nozaki (U. Toyama)	Application of Palladium Coating on Group 5 Metals for Vacuum Permeator – Problems and Possible Solutions-
14:00-14:20	T. Otsuka (Kyushu U.)	Behaviors of Hydrogen Localized on the Materials Surface
14:20-14:40	Y. Hatano (U. Toyama)	Effects of Surface Treatments on Tritium Contamination of Stainless Steel
14:40-15:00	M. Oyaidzu (JAEA)	Preliminary Study of Electrochemical Corrosion Behavior of F82H Stainless Steel
15:00-15:20	K. Isobe (JAEA)	Effects of Ceria Concentration in the Electrode on Water Decomposition Efficiency
15:20-15:40	M. Hara (U. Toyama)	Permeation of Tritiated Water through Polypropylene

Break (15:40-15:50)

Laboratory Tour or Free Discussion (15:50-17:30)

Unsupported Dinner (18:30 – 20:30)

September 15 (Tue)

Session 4 (Chair: T. Oda)

9:00-9:20	O. Ogorodnikova	Ion-Induced Deuterium Retention in Different Tungsten and Molybdenum Grades (Invited)
9:20-9:40	V. Kh. Alimov (JAEA)	Three-Dimensional Morphology of Blister-Like Structures and Deuterium Retention in Tungsten Exposed to Low-Energy, High-Flux D Plasma
9:40-10:00	Y. Oya (Shizuoka U.)	Simultaneous Ion Implantation Effect on Hydrogen Isotope Retention in Tungsten
10:00-10:20	Y. Yamauchi (Hokkaido U.)	Deuterium Concentration of Co-Deposited Carbon Layer Produced at Gap of Wall Tiles
10:20-10:40	K. Hashizume (Kyushu U.)	Diffusion Behavior of Tritium in V-4Cr-4Ti Alloy
10:40-11:00	D. Yamauchi (U. Tokyo)	Modeling of Hydrogen Diffusion in bcc Metals

Break (11:00-11:15)

Session 5 (Chair: T. Abe)

11:15-11:35	M. Matsuyama (U. Toyama)	Present Status and Future Subjects of Tritium Measuring Techniques
11:35-11:55	K. Kobayashi (U. Toyama)	The Application of Near-Infrared Spectroscopy to the Observation of Tritium Water

11:55-12:00 Closing

Important information

- (1) The workshop will be held in the Multi-Purpose Hall, Faculty of Science in Gofuku campus of University of Toyama. The campus map is shown in the next page. Please come to the Multi-Purpose Hall or Hydrogen Isotope Research Center before 9:00 AM of September 14 (Mon).

The location of campus is shown in <http://www.u-toyama.ac.jp/en/access/gofuku/index.html>.

You can reach the campus by taking tram to the final station.

- (2) We are very happy to pick up foreign visitors at Toyama airport or Toyama Station on his/her arrival, and/or at the hotel in the morning of September 14. Please let Yuji Hatano (hatano@ctg.u-toyama.ac.jp) know your arrival time and hotel.
- (3) We are planning to have a dinner in the evening of September 14 in a Japanese cuisine restaurant (mainly seafood). The cost is about 6,000 Japanese Yen (4000 yen for foods plus beverages).
- (4) The book of proceedings will be published *after* the workshop. Please prepare camera-ready manuscript with the attached template. The format is similar to that for the proceedings of International Conference on Tritium Science and Technology. The length of manuscript should be within 6 pages. The deadline for submission is October 31, 2009. Please send to hatano@ctg.u-toyama.ac.jp.

