

Recent Conference Contributions Relevant to CRP on “Plasma-Wall Interaction with Reduced Activation Steel Surfaces in Fusion Devices”

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14th International Conference on Plasma Facing Materials and Components for Fusion Applications (PFMC 2013), Jülich, 13-17 May 2013

Papers are in Physica Scripta: <http://iopscience.iop.org/1402-4896/2014/T159>.

Invited and oral contributions

C9 A. V. Spitsyn, A. V. Golubeva, M. Mayer, D. I. Cherkez, N. P. Bobyr, N. S. Klimov, Yu. M. Gasparyan, O. V. Ogorodnikova, V. Kh. Alimov, V. S. Efimov, A. Putrik, V. M. Chernov: Retention and Permeation of Deuterium in Low-activation Steels by Gas and Plasma Exposure

Poster contributions

A042 S. Korica, A. Manhard, T. Schwarz-Selinger, M. Siljegovic, A. Kalijadis and W. Jacob: Fe and Cr as Model Systems for Deuterium Retention Studies in EUROFER

A048 O. V. Ogorodnikova, K. Sugiyama, Yu. Gasparyan, V. Efimov: Deuterium retention in displacement damage produced by fast heavy ions in tungsten and Eurofer

A062 S. Lindig, A. Houben and T. Schwarz-Selinger: The Native Hydrogen Content in EUROFER97

A068 V. Kh. Alimov, Y. Hatano, K. Sugiyama, T. Höschen, M. Oyaidzu, J. Dorner, M. Fußeder, T. Yamanishi: Surface Modification and Deuterium Retention in Reduced Activation Ferritic Martensitic Steels Exposed to Low-Energy, High Flux D plasmas and D₂ Gas

A120 A. Houben, F. Koch, and Ch. Linsmeier: Ceramic Coatings as Tritium Permeation Barriers on Eurofer97

16th International Conference on Fusion Reactor Materials (ICFRM 2013), Beijing, 20-26 Oct 2013

Papers are in JNM: <http://www.sciencedirect.com/science/journal/00223115/455/1>.

Plenary, invited and other talks

Farhad Tavassoli, CEA, France: Current status and recent research achievements in ferritic/martensitic steels

Natalia Luzginova, NRG, Netherlands: An overview of 10 years of irradiation experiments on EUROFER 97 steel at high flux reactor in Petten

Takuya Yamamoto, UCSB, USA: In situ He injection and dual ion irradiation studies of reduced activation tempered martensitic steels and nanostructured ferritic alloys

Zhongwen Yao, QueensU, Canada: Radiation induced microstructures in austenitic ODS steels under dual-beam ions

Viacheslav Kuksenko, PSI, Switzerland: Nano-sized clusters formation in ferritic-martensitic steels under mixed proton-neutron irradiation

Jean-Louis Boutard, CEA, France: Oxide dispersion strengthened ferritic steels, a basic research joint program in France

Xu Wang, UM, USA: Microstructure analysis of ion beam irradiated CNSI and CNSII steels

Alexander V. Spitsyn, NRC KI, Russia: Retention of deuterium in damaged low-activation steel RUSFER (EK-181) after gas and plasma exposure

Poster contributions

16-110 Hui Zheng: The inhibition effect of low-temperature pre-irradiation of helium ions on the growth of helium bubble in 316L stainless steel: A Monte Carlo simulation

16-140 Dmitry Terentyev: Interaction of minor alloying elements with lattice defects in ferritic high-Cr steels: Ab initio study

16-162 Hongen Ge: Microstructure investigation on clam steel under H⁺/He⁺ dual-beam irradiation

16-234 Haishan Zhou: Plasma- and gas-driven hydrogen permeation through a reduced activation ferritic steel alloy F82H

- 16-248 Olga V. Ogorodnikova: Deuterium retention in reduced-activation ODS steels irradiated by 20 MeV W ions
- 16-281 Christiane Vieh: Pressure analysis of He-bubbles in He-implanted bcc and fcc steel
- 16-475 Naoko Ashikawa: Effects of helium bombardment on hydrogen retention in F82H steel
- 16-530 Chenyang Lu: Effects of helium ion implantation on the microstructure of two 9Cr ODS steels
- 16-537 Takuya Yamamoto: Modeling of helium effects on microstructural evolution in reduced activation tempered martensitic steels and nanostructured ferritic alloys: the effects of He/dpa, temperature, dose and dose rate
- 16-158 Chi Zhang: Microstructural evolution of nanocrystalline RAFM steel irradiated with helium ion
- 16-049 Djamel Kaoumi: Irradiation induced defect structures in two model F/M steels
- 16-116 Jihong Chen: Microstructure of reduced-activation martensitic steels irradiated by sequential He and Fe ions
- 16-211 Jinsung Jang: Irradiation induced microstructure evolution in ferritic and austenitic oxide dispersion strengthened steels
- 16-398 Qian Zhan: Effects of ion irradiation on microstructure of precipitates in China low activation martensitic steel
- 16-419 Weiwei Zhao: Research progress of tritium permeation barrier coatings on CLAM steel for CN DFLL-TBM
- 16-163 Yanhong Chang: Comparison between hydrogen and helium irradiation effects on both surface and bulk mechanical properties of 12Cr-ODS steel
- 16-255 Hui Zheng: The inhibition effect of low-temperature pre-irradiation of helium ions on the growth of helium bubble in 316L stainless steel: A Monte Carlo simulation
- 16-277 Inês Carvalho: Characterization of He implanted and neutron irradiated Eurofer97 steel
- 16-467 V.I. Zhurba: Step character of deuterium retention coefficient in austenitic stainless steel implanted at temperature~295K

21st International Conference on Plasma Surface Interactions in Controlled Fusion Devices (PSI 2014), Kanazawa, 26-30 May 2014

Papers are in JNM v463: <http://www.sciencedirect.com/science/journal/00223115/463>

Invited and oral contributions

O9 K. Sugiyama, J. Roth, V. Kh. Alimov, K. Schmid, M. Balden, S. Elgeti, F. Koch, T. Höschel, M. J. Baldwin, R. P. Doerner, H. Maier, W. Jacob: Erosion study of Fe-W mixed layer towards assessment of RAFM steel as plasma-facing material

Poster contributions (first author only)

- P1-023 A. Hakola: Erosion of tungsten and steel in the main chamber of ASDEX Upgrade
- P1-057 I. Takagi: Hydrogen-Deuterium exchange on plasma-exposed W and SS surface
- P1-096 N. Yoshida: Retention and Desorption of Hydrogen and Helium from Stainless Steel Exposed to Plasmas of LHD
- P2-005 N. Ashikawa: Effects of helium bombardment on hydrogen retention properties in F82H steel
- P2-016 R. A. Pitts: Final case for a stainless steel Diagnostic First Wall on ITER

P2-026 T. Takizuka: Combination of helical ferritic-steel inserts and flux-tube-expansion divertor for the heat control in tokamak DEMO reactor

P3-020 M. Balden: Surface modifications of RAFM steels by deuterium exposure: Variation from coral-like/fuzz-like to blister-like features

P3-048 H. Zhou: Effects of surface conditions on the plasma-driven permeation behavior through a ferritic steel alloy observed in VEHICLE-1 and QUEST

12th International Workshop on Hydrogen Isotopes in Fusion Reactor Materials, Toyama, 2-6 June 2014

1-PM-11 D. Zhu, T. Oda: Influence of Hydrogen-Vacancy Interaction on Mobility of Hydrogen and Vacancy in bcc-Metal

2-AM-5 Yu. M. Gasparyan, I. M. Timofeev, V. S. Efimov, M. S. Zibrov, A. A. Pisarev: Effect of Surface Conditions on Deuterium Retention and Desorption in Ferritic-Martensitic Steels

2-AM-6 Y. Hatano, V. Kh. Alimov, N. Yoshida, H. Watanabe, M. Oyaidzu, T. Hayashi: Surface Morphology of F82H Reduced Activation Ferritic/Martensitic Steel Exposed to High Flux Deuterium Plasma

2-AM-7 V. Kh. Alimov, Y. Hatano, J. Roth, K. Sugiyama, M. Oyaidzu, M. Baldwin, R. Doerner, M. H. J. 't Hoen, H. T. Lee, Y. Ueda, M. Matsuyama, T. Hayashi: Deuterium Retention in Reduced Activation Ferritic Martensitic Steels Exposed to D Plasmas and Irradiated with D Ions

2-AM-8 N. P. Bobyr, A. V. Spitsyn, A. V. Golubeva, M. Mayer, Y. Hatano, N. S. Klimov, B. I. Khripunov, V. Kh. Alimov, D. I. Cherkez, O. V. Ogorodnikova, V. M. Chernov: Hydrogen Isotopes Retention in Low-Activated Structural Materials

15th International Conference on Plasma Facing Materials and Components for Fusion Applications (PFMC 2015), Aix-en-Provence, 18-22 May 2015

Invited and oral contributions

O-17 U. von Toussaint, T. Schwarz-Selinger and A. Mutzke: Investigation of coupled sputter-diffusion-effects of the tungsten-iron model system under deuterium ion bombardment

Poster contributions

A052 Tue P-40 A. B. M. Berger, R. Stadlmayr, G. Meisl, M. Cekada, K. Sugiyama, M. Oberkofler, T. Schwarz-Selinger, and F. Aumayr: Transient effects during erosion of WN and FeW films by deuterium ions studied with the quartz crystal microbalance technique

A129 Tue P-104 V.Kh. Alimov, Y. Hatano, M. Oyaidzu, M. Tokitani, and T. Hayashi: Erosion and surface modification of reduced activation ferritic martensitic steel F82H and iron exposed to deuterium and helium plasmas

A136 Tue P-112 Yuji Torikai, M. Nakayama, M. Saito, V.Kh. Alimov and R.-D. Penzhorn: Apparent tritium solubility in Fusion Reactor Materials

A157 Thu P-19 J. Matějčíček, V. Weinzettl, A. Macková, V. Havránek, A. Hakola, Per Petersson, Hans Maier and M. Rubel: Interaction of candidate plasma facing materials with tokamak plasma

A160 Thu P-22 K. Yakushiji, H.T. Lee, K. Imano, and Y. Ueda: Influence of helium on deuterium retention in reduced activation ferritic-martensitic steel (F82H) under simultaneous deuterium and helium irradiation

A198 Thu P-54 M. Rasinski, S. Möller, J. Steffens, B. Unterberg, C. Brandt, K. Sugiyama, T. Schwarz-Selinger, A. Kreter, Ch. Linsmeier: Morphology and composition of Fe-W model alloys after deuterium plasma exposure

A213 Thu P-69 K. Sugiyama, J. Roth, R.P. Doerner, M. Balden, T. Hörschen, W. Jacob: Sputtering Behaviour of EUROFER Steel by Energetic Deuteron Bombardment at Various Temperatures

A230 Thu P-85: L. Begrambekov, A. Ayrapetov, C. Grisolia, A. Kaplevsky, J-M Layet, Ya. Sadovsky, A. Zakharov: Consequences of oxide layers on deuterium trapping in tungsten and stainless steel: application to metal detritiation.

17th International Conference on Fusion Reactor Materials (ICFRM 2015), Aachen, 11-16 Oct 2015

Plenary, invited and other talks

Poster contributions

to follow.