Masashi Shimada

List of Publications by Year
in descending order

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79 papers	1,530 citations	331670 21 h-index	330143 37 g-index
79 all docs	79 docs citations	79 times ranked	1051 citing authors

#	Article	IF	Citations
1	Observation of Turbulent-Driven Shear Flow in a Cylindrical Laboratory Plasma Device. Physical Review Letters, 2006, 96, 195002.	7.8	132
2	Observation of turbulent-driven shear flow in a cylindrical laboratory plasma device. Plasma Physics and Controlled Fusion, 2006, 48, S51-S73.	2.1	112
3	Deuterium trapping at defects created with neutron and ion irradiations in tungsten. Nuclear Fusion, 2013, 53, 073006.	3.5	99
4	Trapping of hydrogen isotopes in radiation defects formed in tungsten by neutron and ion irradiations. Journal of Nuclear Materials, 2013, 438, S114-S119.	2.7	76
5	In-vessel dust and tritium control strategy in ITER. Journal of Nuclear Materials, 2013, 438, S996-S1000.	2.7	72
6	First result of deuterium retention in neutron-irradiated tungsten exposed to high flux plasma in TPE. Journal of Nuclear Materials, 2011, 415, S667-S671.	2.7	65
7	Irradiation effect on deuterium behaviour in low-dose HFIR neutron-irradiated tungsten. Nuclear Fusion, 2015, 55, 013008.	3.5	61
8	The deuterium depth profile in neutron-irradiated tungsten exposed to plasma. Physica Scripta, 2011, T145, 014051.	2.5	50
9	Neutral gas density depletion due to neutral gas heating and pressure balance in an inductively coupled plasma. Plasma Sources Science and Technology, 2007, 16, 193-199.	3.1	49
10	Retention behavior in tungsten and molybdenum exposed to high fluences of deuterium ions in TPE. Journal of Nuclear Materials, 2009, 390-391, 709-712.	2.7	45
11	Overview of the USâ€“Japan collaborative investigation on hydrogen isotope retention in neutron-irradiated and ion-damaged tungsten. Fusion Engineering and Design, 2012, 87, 1166-1170.	1.9	43
12	Comparison of deuterium retention for ion-irradiated and neutron-irradiated tungsten. Physica Scripta, 2011, T145, 014050.	2.5	42
13	Carbon atom and cluster sputtering under low-energy noble gas plasma bombardment. Journal of Applied Physics, 2008, 104, .	2.5	34
14	Rotational and translational temperature equilibrium in an inductively coupled plasma. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2006, 24, 1878-1883.	2.1	30
15	Materials-related issues in the safety and licensing of nuclear fusion facilities. Nuclear Fusion, 2017, 57, 092003.	3.5	30
16	Deuterium trapping by irradiation damage in tungsten induced by different displacement processes. Fusion Engineering and Design, 2013, 88, 1749-1752.	1.9	27
17	Annealing effects on deuterium retention behavior in damaged tungsten. Nuclear Materials and Energy, 2016, 9, 141-144.	1.3	26
18	Retention of Hydrogen Isotopes in Neutron Irradiated Tungsten. Materials Transactions, 2013, 54, 437-441.	1.2	25

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19	Deuterium retention in neutron-irradiated single-crystal tungsten. Fusion Engineering and Design, 2018, 136, 1161-1167.	1.9	24
20	Effect of helium irradiation on deuterium permeation behavior in tungsten. Journal of Nuclear Materials, 2017, 490, 242-246.	2.7	23
21	Tritium permeation experiments using reduced activation ferritic/martensitic steel tube and erbium oxide coating. Fusion Engineering and Design, 2014, 89, 1402-1405.	1.9	22
22	Tritium plasma experiment: Parameters and potentials for fusion plasma-wall interaction studies. Review of Scientific Instruments, 2011, 82, 083503.	1.3	21
23	Recent development and application of a new safety analysis code for fusion reactors. Fusion Engineering and Design, 2016, 109-111, 970-974.	1.9	21
24	Numerical simulations of collisional drift-wave turbulence in a magnetized plasma column. Plasma Physics and Controlled Fusion, 2007, 49, A109-A119.	2.1	19
25	Neutral depletion in inductively coupled plasmas using hybrid-type direct simulation Monte Carlo. Journal of Applied Physics, 2008, 103, 033304.	2.5	19
26	Recent progress of hydrogen isotope behavior studies for neutron or heavy ion damaged W. Fusion Engineering and Design, 2016, 113, 211-215.	1.9	19
27	A multi-technique analysis of deuterium trapping and near-surface precipitate growth in plasma-exposed tungsten. Journal of Applied Physics, 2015, 118, 073301.	2.5	18
28	Surface effects on deuterium permeation through vanadium membranes. Journal of Membrane Science, 2021, 620, 118949.	8.2	18
29	Defect annealing and thermal desorption of deuterium in low dose HFIR neutron-irradiated tungsten. Journal of Nuclear Materials, 2015, 463, 1005-1008.	2.7	16
30	Improved tritium retention modeling with reaction-diffusion code TMAP and bulk depth profiling capability. Nuclear Materials and Energy, 2019, 19, 273-278.	1.3	16
31	Mechanisms of gas precipitation in plasma-exposed tungsten. Journal of Nuclear Materials, 2013, 438, S1019-S1022.	2.7	14
32	Development of a new cellular solid breeder for enhanced tritium production. Fusion Engineering and Design, 2016, 109-111, 119-127.	1.9	14
33	Clarification of Tritium Behavior in Pb–Li Blanket System. Materials Transactions, 2013, 54, 425-429.	1.2	13
34	Direct depth distribution measurement of deuterium in bulk tungsten exposed to high-flux plasma. AIP Advances, 2017, 7, 055305.	1.3	13
35	Development of positron annihilation spectroscopy for investigating deuterium decorated voids in neutron-irradiated tungsten. Journal of Nuclear Materials, 2015, 463, 1009-1012.	2.7	12
36	D retention and depth profile behavior for single crystal tungsten with high temperature neutron irradiation. Journal of Nuclear Materials, 2020, 539, 152323.	2.7	11

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37	Application of tritium imaging plate technique to examine tritium behaviors on the surface and in the bulk of plasma-exposed materials. Journal of Nuclear Materials, 2011, 415, S769-S772.	2.7	10
38	Development of positron annihilation spectroscopy for characterizing neutron irradiated tungsten. Physica Scripta, 2014, T159, 014055.	2.5	9
39	Low tritium partial pressure permeation system for mass transport measurement in lead lithium eutectic. Fusion Engineering and Design, 2016, 102, 8-13.	1.9	9
40	Deuterium retention and blistering in tungsten foils. Nuclear Materials and Energy, 2017, 12, 689-693.	1.3	9
41	Tritium decay helium-3 effects in tungsten. Nuclear Materials and Energy, 2017, 12, 699-702.	1.3	9
42	Tritium Plasma Experiment Upgrade and Improvement of Surface Diagnostic Capabilities at STAR Facility for Enhancing Tritium and Nuclear PMI Sciences. Fusion Science and Technology, 2017, 71, 310-315.	1.1	8
43	Tritium permeability in polycrystalline tungsten. Fusion Engineering and Design, 2019, 146, 1988-1992.	1.9	8
44	Electron beam fluorescence temperature measurements of N2 in a semiconductor plasma reactor. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2004, 22, 371-376.	2.1	7
45	Tritium permeability measurement in hydrogen-tritium system. Fusion Engineering and Design, 2018, 129, 134-139.	1.9	7
46	High temperature deuterium enrichment using TiC coated vanadium membranes. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2019, 37, .	2.1	7
47	Development of Monte Carlo Simulation Code to Model Behavior of Hydrogen Isotopes Loaded into Tungsten Containing Vacancies. Fusion Science and Technology, 2011, 60, 1455-1458.	1.1	6
48	Development of a plasma driven permeation experiment for TPE. Fusion Engineering and Design, 2014, 89, 1014-1018.	1.9	6
49	TPE upgrade for enhancing operational safety and improving in-vessel tritium inventory assessment in fusion nuclear environment. Fusion Engineering and Design, 2016, 109-111, 1077-1081.	1.9	6
50	First GD-OES results on various deuterium ion fluences implanted in tungsten. Nuclear Materials and Energy, 2018, 16, 29-33.	1.3	6
51	Surface or bulk He existence effect on deuterium retention in Fe ion damaged W. Nuclear Materials and Energy, 2018, 16, 217-220.	1.3	6
52	Influence of dynamic annealing of irradiation defects on the deuterium retention behaviors in tungsten irradiated with neutron. Fusion Engineering and Design, 2019, 146, 1624-1627.	1.9	6
53	Hydrogen Isotope Retention and Permeation in Neutron-Irradiated Tungsten and Tungsten Alloys Under PHENIX Collaboration. Fusion Science and Technology, 2017, 72, 652-659.	1.1	5
54	Impact of Annealing on Deuterium Retention Behavior in Damaged W. Fusion Science and Technology, 2017, 72, 785-788.	1.1	5

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55	Conceptual Design for a Blanket Tritium Extraction Test Stand. Fusion Science and Technology, 2021, 77, 829-835.	1.1	5
56	Effects of Helium Seeding on Deuterium Retention in Neutron-Irradiated Tungsten. Fusion Science and Technology, 2021, 77, 76-79.	1.1	5
57	Interaction of Hydrogen Isotopes with Radiation Damaged Tungsten. Advances in Intelligent Systems and Computing, 2018, , 41-49.	0.6	5
58	Tritium Transport in Fusion Reactor Materials. , 2020, , 251-273.		5
59	Characterization of surface morphology and retention in tungsten materials exposed to high fluxes of deuterium ions in the tritium plasma experiment. Physica Scripta, 2009, T138, 014042.	2.5	4
60	An overview of research activities on materials for nuclear applications at the INL Safety, Tritium and Applied Research facility. Journal of Nuclear Materials, 2011, 417, 1336-1340.	2.7	4
61	Behavior of deuterium retention and surface morphology for VPSâ€“W/F82H. Journal of Nuclear Materials, 2013, 442, S242-S245.	2.7	4
62	Tritium trapping in silicon carbide in contact with solid breeder under high flux isotope reactor irradiation. Journal of Nuclear Materials, 2013, 442, S497-S500.	2.7	4
63	Deuterium Retention in Helium and Neutron Irradiated Molybdenum. Fusion Science and Technology, 2017, 71, 491-495.	1.1	3
64	Effect of sequential Fe 2+ â^' C + implantation on deuterium retention in W. Fusion Engineering and Design, 2017, 124, 231-234.	1.9	3
65	Recent accomplishments of the fusion safety program at the Idaho National Laboratory. Fusion Engineering and Design, 2018, 136, 1106-1111.	1.9	3
66	Characterization of coincidence Doppler broadening and positron annihilation lifetime systems at INL. AIP Conference Proceedings, 2019, , .	0.4	3
67	Deuterium retention in tungsten irradiated by high-dose neutrons at high temperature. Nuclear Materials and Energy, 2021, 27, 100980.	1.3	3
68	Numerical analysis of deuterium migration behaviors in tungsten damaged by fast neutron by means of gas absorption method. Fusion Engineering and Design, 2021, 168, 112635.	1.9	3
69	Effect of rhenium addition on deuterium retention in neutron-irradiated tungsten. Journal of Nuclear Materials, 2022, , 153774.	2.7	3
70	The impact of specific surface area on the retention of deuterium in carbon fiber composite materials. Fusion Engineering and Design, 2009, 84, 1068-1071.	1.9	2
71	Behavior of Tritium near Surface Region of Metals Exposed to Tritium Plasma. Fusion Science and Technology, 2011, 60, 1539-1542.	1.1	2
72	Characterization of Tritium Isotopic Permeation Through ARAA in Diffusion Limited and Surface Limited Regimes. Fusion Science and Technology, 0, , 1-10.	1.1	2

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73	Progress in the U.S./Japan PHENIX Project for the Technological Assessment of Plasma Facing Components for DEMO Reactors. Fusion Science and Technology, 0, , 1-11.	1.1	2
74	Safety and Tritium Applied Research Facility Annual Atmospheric Tritium Emissions. Fusion Science and Technology, 2019, 75, 18-23.	1.1	2
75	Measurement of Radial and Axial Neutral Gas Temperature in a Semi-Conductor Plasma Reactor. AIP Conference Proceedings, 2005, , .	0.4	1
76	Overview of Recent Tritium Experiments in TPE. Fusion Science and Technology, 2011, 60, 1495-1498.	1.1	1
77	Neutron irradiated tungsten bulk defect characterization by positron annihilation spectroscopy. Nuclear Materials and Energy, 2021, 26, 100936.	1.3	1
78	Effect of C-He simultaneous implantation on deuterium retention in damaged W by Fe implantation. Fusion Engineering and Design, 2018, 137, 10-14.	1.9	0
79	Dynamics evaluation of hydrogen isotope behavior in tungsten simulating damage distribution. Fusion Engineering and Design, 2019, 146, 2096-2099.	1.9	0