Sabina Markelj

List of Publications by Year
in descending order

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65 papers	1,114 citations	394421 19 h-index	477307 29 g-index
65 all docs	65 docs citations	65 times ranked	879 citing authors

#	Article	IF	Citations
1	Plasmaâ€“wall interaction studies within the EUROfusion consortium: progress on plasma-facing components development and qualification. Nuclear Fusion, 2017, 57, 116041.	3.5	75
2	Ion beam analysis of fusion plasma-facing materials and components: facilities and research challenges. Nuclear Fusion, 2020, 60, 025001.	3.5	54
3	Dissociative Electron Attachment Cross Sections for<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi mathvariant="normal">H</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:math>and<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi mathvariant="normal">D</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:math>. Physical Review Letters, 2011, 106, 243201.	7.8	44
4	Dynamic fuel retention in tokamak wall materials: An in situ laboratory study of deuterium release from polycrystalline tungsten at room temperature. Journal of Nuclear Materials, 2015, 467, 432-438.	2.7	41
5	In situ NRA study of hydrogen isotope exchange in self-ion damaged tungsten exposed to neutral atoms. Journal of Nuclear Materials, 2016, 469, 133-144.	2.7	41
6	Deuterium inventory in Tore Supra: Coupled carbonâ€“deuterium balance. Journal of Nuclear Materials, 2013, 438, S120-S125.	2.7	38
7	Hydrogen isotope accumulation in the helium implantation zone in tungsten. Nuclear Fusion, 2017, 57, 064002.	3.5	37
8	Influence of the presence of deuterium on displacement damage in tungsten. Nuclear Materials and Energy, 2018, 17, 228-234.	1.3	35
9	Temperature dependence of D atom adsorption on polycrystalline tungsten. Applied Surface Science, 2013, 282, 478-486.	6.1	33
10	Thermal desorption from self-damaged tungsten exposed to deuterium atoms. Journal of Nuclear Materials, 2015, 463, 1013-1016.	2.7	33
11	Retention and release of hydrogen isotopes in tungsten plasma-facing components: the role of grain boundaries and the native oxide layer from a joint experiment-simulation integrated approach. Nuclear Fusion, 2017, 57, 076019.	3.5	33
12	Simulations of atomic deuterium exposure in self-damaged tungsten. Nuclear Fusion, 2017, 57, 056002.	3.5	33
13	Displacement damage stabilization by hydrogen presence under simultaneous W ion damage and D ion exposure. Nuclear Fusion, 2019, 59, 086050.	3.5	32
14	The influence of the annealing temperature on deuterium retention in self-damaged tungsten. Physica Scripta, 2016, T167, 014031.	2.5	30
15	Deuterium atom loading of self-damaged tungsten at different sample temperatures. Journal of Nuclear Materials, 2017, 496, 1-8.	2.7	29
16	Deuterium retention in tungsten simultaneously damaged by high energy W ions and loaded by D atoms. Nuclear Materials and Energy, 2017, 12, 169-174.	1.3	28
17	Production of vibrationally excited hydrogen molecules by atom recombination on Cu and W materials. Journal of Chemical Physics, 2011, 134, 124707.	3.0	24
18	Recent progress in the understanding of H transport and trapping in W. Physica Scripta, 2017, T170, 014037.	2.5	24

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19	Interaction of atomic and low-energy deuterium with tungsten pre-irradiated with self-ions. Journal of Applied Physics, 2016, 119, .	2.5	23
20	LIBS detection of erosion/deposition and deuterium retention resulting from exposure to Pilot-PSI plasmas. Journal of Nuclear Materials, 2017, 489, 129-136.	2.7	19
21	Influence of grain size on deuterium transport and retention in self-damaged tungsten. Journal of Nuclear Materials, 2019, 513, 198-208.	2.7	19
22	Simple and accurate spectra normalization in ion beam analysis using a transmission mesh-based charge integration. Nuclear Instruments & Methods in Physics Research B, 2006, 243, 392-396.	1.4	17
23	In situnuclear reaction analysis of D retention in undamaged and self-damaged tungsten under atomic D exposure. Physica Scripta, 2014, T159, 014047.	2.5	17
24	Experimental cross section and angular distribution of the 2H(p,$gamma$)3He reaction at Big-Bang nucleosynthesis energies. European Physical Journal A, 2019, 55, 1.	2.5	17
25	Deuterium Inventory in Tore Supra (DITS): 2nd post-mortem analysis campaign and fuel retention in the gaps. Journal of Nuclear Materials, 2011, 415, S757-S760.	2.7	16
26	New rate equation model to describe the stabilization of displacement damage by hydrogen atoms during ion irradiation in tungsten. Nuclear Fusion, 2020, 60, 036024.	3.5	16
27	Influence of surface roughness on the sputter yield of Mo under keV D ion irradiation. Journal of Nuclear Materials, 2021, 555, 153135.	2.7	16
28	Estimation of the tritium retention in ITER tungsten divertor target using macroscopic rate equations simulations. Physica Scripta, 2017, T170, 014033.	2.5	15
29	Processes with neutral hydrogen and deuterium molecules relevant to edge plasma in tokamaks. Journal of Physics: Conference Series, 2008, 133, 012029.	0.4	14
30	Stabilization of defects by the presence of hydrogen in tungsten: simultaneous W-ion damaging and D-atom exposure. Nuclear Fusion, 2019, 59, 016011.	3.5	14
31	Deuterium transport and retention in the bulk of tungsten containing helium: the effect of helium concentration and microstructure. Nuclear Fusion, 2020, 60, 106029.	3.5	14
32	Studying processes of hydrogen interaction with metallic surfaces in situ and in real-time by ERDA. Nuclear Instruments & Methods in Physics Research B, 2007, 259, 989-996.	1.4	13
33	Electron screening in the 1H(7Li,$ alpha$)4He reaction. European Physical Journal A, 2010, 44, 71-75.	2.5	13
34	Study of thermal hydrogen atom interaction with undamaged and self-damaged tungsten. Journal of Nuclear Materials, 2013, 438, S1027-S1031.	2.7	13
35	Molecular screening in nuclear reactions. Physical Review C, 2015, 92, .	2.9	13
36	In situ hydrogen isotope detection by ion beam methods ERDA and NRA. Nuclear Instruments & Methods in Physics Research B, 2016, 371, 167-173.	1.4	13

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37	Experiments and modelling of multiple sequential MeV ion irradiations and deuterium exposures in tungsten. Journal of Nuclear Materials, 2021, 550, 152947.	2.7	13
38	Gross and net erosion balance of plasma-facing materials in full-W tokamaks. Nuclear Fusion, 2021, 61, 116006.	3.5	13
39	Elastic recoil detection analysis of hydrogen with 7Li ions using a polyimide foil as a thick hydrogen reference. Nuclear Instruments & Methods in Physics Research B, 2005, 227, 591-596.	1.4	12
40	TEM investigation of the influence of dose rate on radiation damage and deuterium retention in tungsten. Materials Characterization, 2019, 154, 1-6.	4.4	12
41	Fuel retention study in fusion reactor walls by micro-NRA deuterium mapping. Nuclear Instruments & Methods in Physics Research B, 2011, 269, 2317-2321.	1.4	11
42	Kinetic model for hydrogen absorption in tungsten with coverage dependent surface mechanisms. Nuclear Fusion, 2020, 60, 106011.	3.5	11
43	Effect of D on the evolution of radiation damage in W during high temperature annealing. Nuclear Fusion, 2020, 60, 106028.	3.5	11
44	In situ study of erosion and deposition of amorphous hydrogenated carbon films by exposure to a hydrogen atom beam. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2012, 30, .	2.1	9
45	Modelling of hydrogen isotopes trapping, diffusion and permeation in divertor monoblocks under ITER-like conditions. Nuclear Fusion, 2021, 61, 126003.	3.5	9
46	Towards ps-LIBS tritium measurements in W/Al materials. Fusion Engineering and Design, 2019, 146, 1971-1974.	1.9	8
47	Microstructure evolution in helium implanted self-irradiated tungsten annealed at 1700ÂK studied by TEM. Materials Characterization, 2021, 174, 110991.	4.4	8
48	An extraction system for low-energy hydrogen ions formed by electron impact. International Journal of Mass Spectrometry, 2008, 275, 64-74.	1.5	7
49	Studying permeation of hydrogen (H and D) through Palladium membrane dynamically with ERDA method. Nuclear Instruments & Methods in Physics Research B, 2007, 261, 498-503.	1.4	6
50	Low energy Hâ¯ production by electron collision with small hydrocarbons. European Physical Journal D, 2012, 66, 1.	1.3	6
51	Observation of electron emission in the nuclear reaction between protons and deuterons. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2017, 773, 553-556.	4.1	6
52	Micro-NRA and micro-3HIXE with 3 He microbeam on samples exposed in ASDEX Upgrade and Pilot-PSI machines. Nuclear Instruments & Methods in Physics Research B, 2017, 404, 179-184.	1.4	5
53	Reemission of neutral hydrogen molecules from tungsten. Journal of Nuclear Materials, 2009, 390-391, 520-523.	2.7	4
54	The influence of nitrogen co-deposition in mixed layers on deuterium retention and thermal desorption. Journal of Nuclear Materials, 2015, 467, 472-479.	2.7	4

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55	Interaction of ammonia and hydrogen with tungsten at elevated temperature studied by gas flow through a capillary. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2017, 35, 061602.	2.1	4
56	Influence of hydrocarbons on vibrational excitation of H2 molecules. Nuclear Engineering and Design, 2011, 241, 1267-1271.	1.7	3
57	Non-uniform He bubble formation in W/W2C composite: Experimental and ab-initio study. Acta Materialia, 2022, 226, 117608.	7.9	3
58	Deuterium removal from radiation damage in tungsten by isotopic exchange with hydrogen atomic beam. Journal of Physics: Conference Series, 2016, 748, 012007.	0.4	2
59	Study of lateral distribution of impurities on samples exposed in the ASDEX Upgrade using microbeam of 3He and 1H. Physica Scripta, 2017, T170, 014067.	2.5	1
60	Electron Screening in Reaction Between Protons and Lithium Nuclei. , 2009, , .		0
61	Dissociative electron attachment cross sections for H2and D2using ion momentum imaging spectrometer. Journal of Physics: Conference Series, 2012, 388, 052015.	0.4	0
62	Large electron screening effect in different environments. AIP Conference Proceedings, 2015, , .	0.4	0
63	Large electron screening effect in different environments. EPJ Web of Conferences, 2016, 117, 09012.	0.3	0
64	Tritium measurements by nuclear reaction analysis using 3He beam in the energy range between 0.7ÂMeV and 5.1ÂMeV. Nuclear Materials and Energy, 2021, 28, 101057.	1.3	0
65	The synergies between displacement damage creation and hydrogen presence: the effect of D ion energy and flux. Physica Scripta, 0, , .	2.5	0