Vadym Makhlai

List of Publications by Year
in descending order

61 papers	841 citations	516710 16 h-index	526287 27 g-index
61 all docs	61 docs citations	61 times ranked	388 citing authors

#	Article	IF	Citations
1	Application of powerful quasi-steady-state plasma accelerators for simulation of ITER transient heat loads on divertor surfaces. Plasma Physics and Controlled Fusion, 2007, 49, A231-A239.	2.1	77
2	Performance of deformed tungsten under ELM-like plasma exposures in QSPA Kh-50. Journal of Nuclear Materials, 2011, 415, S65-S69.	2.7	51
3	The latest results from ELM-simulation experiments in plasma accelerators. Physica Scripta, 2009, T138, 014054.	2.5	47
4	Damage to preheated tungsten targets after multiple plasma impacts simulating ITER ELMs. Journal of Nuclear Materials, 2009, 386-388, 127-131.	2.7	45
5	Experimental study of plasma energy transfer and material erosion under ELM-like heat loads. Journal of Nuclear Materials, 2009, 390-391, 814-817.	2.7	44
6	Dust generation mechanisms under powerful plasma impacts to the tungsten surfaces in ITER ELM simulation experiments. Journal of Nuclear Materials, 2013, 438, S233-S236.	2.7	42
7	Influence of plasma pressure gradient on melt layer macroscopic erosion of metal targets in disruption simulation experiments. Journal of Nuclear Materials, 2003, 313-316, 685-689.	2.7	40
8	Tungsten erosion under plasma heat loads typical for ITER type I ELMs and disruptions. Journal of Nuclear Materials, 2005, 337-339, 707-711.	2.7	39
9	Tungsten Melt Losses under QSPA Kh-50 Plasma Exposures Simulating ITER ELMs and Disruptions. Fusion Science and Technology, 2014, 65, 186-193.	1.1	30
10	Novel test-bed facility for PSI issues in fusion reactor conditions on the base of next generation QSPA plasma accelerator. Nuclear Fusion, 2017, 57, 116011.	3.5	30
11	Tungsten melt layer erosion due to JÃ—B force under conditions relevant to ITER ELMs. Journal of Nuclear Materials, 2007, 363-365, 1021-1025.	2.7	29
12	Residual stresses in tungsten under exposures with ITER ELM-like plasma loads. Physica Scripta, 2009, T138, 014060.	2.5	29
13	Characteristics of transient plasma layers produced by irradiation of graphite targets by high power quasi-stationary plasma streams under the disruption simulation conditions. Journal of Nuclear Materials, 1996, 233-237, 736-740.	2.7	25
14	Simulation of plasmaâ€“surface interactions in a fusion reactor by means of QSPA plasma streams: recent results and prospects. Physica Scripta, 2016, 91, 094001.	2.5	18
15	Estimation of the dust production rate from the tungsten armour after repetitive ELM-like heat loads. Physica Scripta, 2011, T145, 014062.	2.5	17
16	Damaging of tungsten and tungstenâ€“tantalum alloy exposed in ITER ELM-like conditions. Nuclear Materials and Energy, 2016, 9, 116-122.	1.3	17
17	The experimental and theoretical investigations of damage development and distribution in double-forged tungsten under plasma irradiation-initiated extreme heat loads. Nukleonika, 2016, 61, 169-177.	0.8	16
18	Powerful quasi-steady-state plasma accelerator for fusion experiments. Brazilian Journal of Physics, 2002, 32, 165-171.	1.4	14

#	Article	IF	Citations
19	Tungsten damage and melt losses under plasma accelerator exposure with ITER ELM relevant conditions. Physica Scripta, 2014, T159, 014024.	2.5	14
20	Limiters for DEMO wall protection: Initial design concepts & technology options. Fusion Engineering and Design, 2022, 174, 112988.	1.9	14
21	Simulation of ITER edge-localized modes' impacts on the divertor surfaces within plasma accelerators. Physica Scripta, 2011, T145, 014061.	2.5	13
22	Influence of a magnetic field on plasma energy transfer to material surfaces in edge-localized mode simulation experiments with QSPA-M. Nuclear Fusion, 2019, 59, 086023.	3.5	13
23	Effect of preheating on the damage to tungsten targets after repetitive ITER ELM-like heat loads. Physica Scripta, 2007, T128, 239-241.	2.5	12
24	Experimental Studies of High-Energy Quasi-Steady Plasma Streams Generated by a Magnetoplasma Analogue of the Laval Nozzle in the Compression and Acceleration Regimes. Plasma Physics Reports, 2019, 45, 166-178.	0.9	12
25	High power plasma interaction with tungsten grades in ITER relevant conditions. Journal of Physics: Conference Series, 2015, 591, 012030.	0.4	11
26	Damaging of inclined/misaligned castellated tungsten surfces exposed to a large number of repetitive QSPA plasma loads. Physica Scripta, 2020, T171, 014047.	2.5	11
27	Vapour shielding of liquid-metal CPS-based targets under ELM-like and disruption transient loading. Nuclear Fusion, 2021, 61, 116040.	3.5	10
28	Features of materials alloying under exposures to pulsed plasma streams. European Physical Journal D, 2009, 54, 185-188.	1.3	9
29	Specific Features of Mechanism for Dust Production from Tungsten Armor under Action of ELMs. Fusion Science and Technology, 2014, 66, 150-156.	1.1	8
30	Damage of target edges in brush-like geometry in the course of ELM-like plasma pulses in QSPA Kh-50. Journal of Nuclear Materials, 2015, 463, 210-214.	2.7	8
31	Generation and development of damage in double forged tungsten in different combined regimes of irradiation with extreme heat loads. Journal of Nuclear Materials, 2017, 495, 91-102.	2.7	8
32	Changes in the structure and substructure of tungsten during irradiation by hydrogen plasma flows at the specific energy close to the heat loads on the ITER surface. Technical Physics, 2014, 59, 1620-1625.	0.7	7
33	Effect of sequential steady-state and pulsed hydrogen plasma loads on structure of textured tungsten samples. Nuclear Instruments & Methods in Physics Research B, 2019, 440, 82-87.	1.4	7
34	EUV radiation from pinching discharges of magnetoplasma compressor type and its dependence on the dynamics of compression zone formation. Physica Scripta, 2014, T161, 014037.	2.5	6
35	Plasma exposure of different tungsten grades with plasma accelerators under ITER-relevant conditions. Physica Scripta, 2014, T161, 014040.	2.5	6
36	Materials surface damage and modification under high power plasma exposures. Journal of Physics: Conference Series, 2018, 959, 012004.	0.4	6

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37	Influence of surface tension on macroscopic erosion of castellated tungsten surfaces during repetitive transient plasma loads. Nuclear Materials and Energy, 2019, 19, 493-497.	1.3	6
38	Spectroscopy of Plasma Surface Interaction in Experiments Simulating ITER Transient Events. Fusion Science and Technology, 2011, 60, 27-33.	1.1	4
39	Correlation of hardness and surface microcracking in ITER specification tungsten exposed at QSPA Kh-50. Journal of Nuclear Materials, 2019, 520, 185-192.	2.7	4
40	Mechanisms of crack generation in high-pure tungsten exposed to high power density plasma. Nuclear Instruments & Methods in Physics Research B, 2020, 481, 6-11.	1.4	4
41	PARAMETERS OF HYDROGEN PLASMA STREAMS IN QSPA-M AND THEIR DEPENDENCE ON EXTERNAL MAGNETIC FIELD. , 2021, , 61-64.		4
42	Distributions of magnetic field and current in pinching plasma flows: effect of axial magnetic field. European Physical Journal Plus, 2021, 136, 1.	2.6	4
43	Melt layer behavior of metal targets irradiatead by powerful plasma streams. Journal of Nuclear Materials, 2002, 307-311, 106-110.	2.7	3
44	Repetitive Plasma Loads Typical for ITER Type-I ELMS: Simulation in QSPA Kh-50. AIP Conference Proceedings, 2006, , .	0.4	3
45	INFLUENCE OF LONGITUDINAL MAGNETIC FIELD IN THE MPC CHANNEL ON THE DENSITY OF GENERATED PLASMA STREAM. , 2021, , 57-60.		3
46	On application of X-ray aproximation method for studying the substructure of sufficiently perfect samples. Functional Materials, 2017, 23, 179-183.	0.1	3
47	Development and testing of an additively manufactured lattice for DEMO limiters. Nuclear Fusion, 2022, 62, 036017.	3.5	3
48	Comparison of optical spectra recorded during DPF-1000U plasma experiments with gas-puffing. Nukleonika, 2015, 60, 309-314.	0.8	2
49	Surface Structure Transformation in Double Forged Tungsten upon Single and Sequenced Irradiation Using Different Types of Radiation Facilities. Inorganic Materials: Applied Research, 2018, 9, 832-847.	0.5	2
50	MEASUREMENT OF THE LOCAL ELECTRON TEMPERATURE IN SELF-COMPRESSED PLASMA STREAM. , 2021, , 149-153.		2
51	Erosion of the Combined Three-Dimensional Tungsten Target Under the Impacts of QSPA Kh-50 Powerful Plasma Streams. Ukrainian Journal of Physics, 2016, 61, 578-582.	0.2	2
52	Application of Quasi-Steady-State Plasma Streams for Material Studies. AIP Conference Proceedings, 2008, , .	0.4	1
53	Dynamics of self-compressed argon and helium plasma streams in the MPC facility. Physica Scripta, 2016, 91, 074006.	2.5	1
54	An Impulsive High-Pressure Gas Valve for Plasma Devices. Instruments and Experimental Techniques, 2018, 61, 878-881.	0.5	1

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55	CONTROL OF IONIZATION PROCESSES IN MAGNETRON SPUTTERING SYSTEM BY CHANGING MAGNETIC FIELD CONFIGURATION. , 2021, , 102-105.		1
56	MODIFICATION AND ALLOYING EFFECTS IN EUROFER STEEL UNDER POWERFUL PULSED PLASMA IMPACTS. , 2021, , 191-194.		1
57	Contribution of leading edge shape to a damaging of castellated tungsten targets exposed to repetitive QSPA plasma loads. Physica Scripta, 2021, 96, 124043.	2.5	1
58	Multiplexing Creation of a Compression Zone in the Plasma Steam MPC under Different Initial Conditions. Ukrainian Journal of Physics, 2017, 62, 306-310.	0.2	1
59	Simulation of iter transient heat loads to the divertor surfaces with using the powerful quasi-steady-state plasma accelerator. European Physical Journal D, 2006, 56, B162-B169.	0.4	0
60	Analysis of optical spectra from steel samples exposed to pulsed plasma streams. Journal of Physics: Conference Series, 2018, 959, 012006.	0.4	0
61	Plasma Injectors for Quasi-Stationary High-Power Plasmodynamic Systems. Instruments and Experimental Techniques, 2019, 62, 522-527.	0.5	0