Marianne Richou

List of Publications by Year
in descending order

104 papers	2,098 citations	257450 24 h-index	276875 41 g-index
104 all docs	104 docs citations	104 times ranked	1325 citing authors

#	Article	IF	Citations
1	The WEST project: Testing ITER divertor high heat flux component technology in a steady state tokamak environment. Fusion Engineering and Design, 2014, 89, 907-912.	1.9	172
2	European DEMO divertor target: Operational requirements and material-design interface. Nuclear Materials and Energy, 2016, 9, 171-176.	1.3	119
3	Conceptual design studies for the European DEMO divertor: Rationale and first results. Fusion Engineering and Design, 2016, 109-111, 1598-1603.	1.9	108
4	European divertor target concepts for DEMO: Design rationales and high heat flux performance. Nuclear Materials and Energy, 2018, 16, 1-11.	1.3	101
5	Plasmaâ€“wall interaction studies within the EUROfusion consortium: progress on plasma-facing components development and qualification. Nuclear Fusion, 2017, 57, 116041.	3.5	75
6	Overview of decade-long development of plasma-facing components at ASIPP. Nuclear Fusion, 2017, 57, 065001.	3.5	71
7	Feasibility study of an actively cooled tungsten divertor in Tore Supra for ITER technology testing. Fusion Engineering and Design, 2011, 86, 684-688.	1.9	66
8	Overview of the deuterium inventory campaign in Tore Supra: Operational conditions and particle balance. Journal of Nuclear Materials, 2009, 390-391, 550-555.	2.7	63
9	The WEST project: Current status of the ITER-like tungsten divertor. Fusion Engineering and Design, 2014, 89, 1048-1053.	1.9	62
10	Potential and limits of water cooled divertor concepts based on monoblock design as possible candidates for a DEMO reactor. Fusion Engineering and Design, 2013, 88, 1836-1843.	1.9	60
11	High heat flux testing of mock-ups for a full tungsten ITER divertor. Fusion Engineering and Design, 2011, 86, 1652-1655.	1.9	52
12	Divertor of the European DEMO: Engineering and technologies for power exhaust. Fusion Engineering and Design, 2022, 175, 113010.	1.9	47
13	Experimental activity on the definition of acceptance criteria for the ITER divertor plasma facing components. Fusion Engineering and Design, 2009, 84, 747-751.	1.9	36
14	High-heat-flux technologies for the European demo divertor targets: State-of-the-art and a review of the latest testing campaign. Journal of Nuclear Materials, 2021, 544, 152670.	2.7	36
15	Emissivity measurement of tungsten plasma facing components of the WEST tokamak. Fusion Engineering and Design, 2019, 149, 111328.	1.9	32
16	Impact of tungsten recrystallization on ITER-like components for lifetime estimation. Fusion Engineering and Design, 2019, 138, 247-253.	1.9	30
17	Physico-chemical characteristics of carbon deposits collected in TEXTOR and Tore Supra tokamaks. Carbon, 2007, 45, 2723-2731.	10.3	29
18	Characterization of heat flux generated by ICRH heating with cantilevered bars and a slotted box Faraday screen. Nuclear Fusion, 2012, 52, 103010.	3.5	26

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19	Design of a W/steel functionally graded material for plasma facing components of DEMO. Journal of Nuclear Materials, 2011, 416, 262-269.	2.7	25
20	Spark plasma sintering of pure and doped tungsten as plasma facing material. Physica Scripta, 2014, T159, 014034.	2.5	25
21	Design study of ITER-like divertor target for DEMO. Fusion Engineering and Design, 2015, 98-99, 1263-1266.	1.9	25
22	The development and testing of the thermal break divertor monoblock target design delivering 20 MW m^{â^'2} heat load capability. Physica Scripta, 2017, T170, 014042.	2.5	25
23	Recrystallization at high temperature of two tungsten materials complying with the ITER specifications. Journal of Nuclear Materials, 2020, 542, 152418.	2.7	25
24	Heat flux depositions on the WEST divertor and first wall components. Fusion Engineering and Design, 2015, 98-99, 1294-1298.	1.9	24
25	Elaboration and thermomechanical characterization of W/Cu functionally graded materials produced by Spark Plasma Sintering for plasma facing components. Fusion Engineering and Design, 2015, 98-99, 1929-1932.	1.9	24
26	Investigation of steady-state tokamak issues by long pulse experiments on Tore Supra. Nuclear Fusion, 2009, 49, 104010.	3.5	23
27	Performance assessment of thick W/Cu graded interlayer for DEMO divertor target. Fusion Engineering and Design, 2020, 157, 111610.	1.9	23
28	Materials for in-vessel components. Fusion Engineering and Design, 2022, 174, 112994.	1.9	23
29	Flush-mounted Langmuir probes in the WEST tokamak divertor. Fusion Engineering and Design, 2021, 163, 112120.	1.9	21
30	Analysis of carbon deposited layer growth processes in Tore Supra. Journal of Nuclear Materials, 2009, 390-391, 49-52.	2.7	20
31	Overview of the different processes of tungsten coating implemented into WEST tokamak. Fusion Engineering and Design, 2017, 124, 207-210.	1.9	20
32	Erosion and redeposition patterns on entire erosion marker tiles after exposure in the first operation phase of WEST. Physica Scripta, 2021, 96, 124020.	2.5	20
33	The WEST project: PFC shaping solutions investigated for the ITER-like W divertor. Fusion Engineering and Design, 2013, 88, 1793-1797.	1.9	19
34	Design of a water cooled monoblock divertor for DEMO using Eurofer as structural material. Fusion Engineering and Design, 2014, 89, 975-980.	1.9	19
35	Realization of high heat flux tungsten monoblock type target with graded interlayer for application to DEMO divertor. Physica Scripta, 2017, T170, 014022.	2.5	19
36	Manufacturing and testing of ITER-like divertor plasma facing mock-ups for DEMO. Fusion Engineering and Design, 2018, 136, 1593-1596.	1.9	19

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37	Sustained W-melting experiments on actively cooled ITER-like plasma facing unit in WEST. Physica Scripta, 2021, 96, 124057.	2.5	19
38	Infrared thermography inspection of the ITER vertical target qualification prototypes manufactured by European industry using SATIR. Fusion Engineering and Design, 2009, 84, 314-318.	1.9	18
39	In situ observation of tungsten plasma-facing components after the first phase of operation of the WEST tokamak. Nuclear Fusion, 2021, 61, 106011.	3.5	18
40	Improvement of non destructive infrared test bed SATIR for examination of actively cooled tungsten armour Plasma Facing Components. Fusion Engineering and Design, 2013, 88, 1818-1822.	1.9	17
41	Progress in high heat flux testing of European DEMO divertor mock-ups. Fusion Engineering and Design, 2019, 146, 216-219.	1.9	17
42	Fatigue lifetime of repaired high heat flux components for ITER divertor. Fusion Engineering and Design, 2011, 86, 1771-1775.	1.9	16
43	Experimental study of the thermal conductivity of sintered tungsten: Evidence of a critical behaviour with porosity. Applied Physics Letters, 2015, 107, .	3.3	15
44	Status on the W monoblock type high heat flux target with graded interlayer for application to DEMO divertor. Fusion Engineering and Design, 2017, 124, 338-343.	1.9	15
45	A high power laser facility to conduct annealing tests at high temperature. Review of Scientific Instruments, 2020, 91, 035102.	1.3	15
46	Design and preliminary thermal validation of the WEST actively cooled upper divertor. Fusion Engineering and Design, 2015, 98-99, 1394-1398.	1.9	14
47	Thermal loads in gaps between ITER divertor monoblocks: First lessons learnt from WEST. Nuclear Materials and Energy, 2021, 27, 100920.	1.3	13
48	Quantitative thermal imperfection definition using non-destructive infrared thermography on an advanced DEMO divertor concept. Physica Scripta, 2017, T170, 014015.	2.5	12
49	Technology readiness assessment of materials for DEMO in-vessel applications. Journal of Nuclear Materials, 2021, 550, 152906.	2.7	12
50	Definition of acceptance criteria for the ITER divertor plasma-facing components through systematic experimental analysis. Physica Scripta, 2009, T138, 014002.	2.5	11
51	Assessment of CFC grades under thermal fatigue for the ITER inner vertical target. Physica Scripta, 2011, T145, 014082.	2.5	11
52	Design optimization of plasma facing component with functional gradient material Cu/W interlayer. Fusion Engineering and Design, 2013, 88, 1714-1717.	1.9	11
53	Fracture mechanical analysis of a tungsten monoblock-type plasma-facing component without macroscopic interlayer for high-heat-flux divertor target. Fusion Engineering and Design, 2017, 122, 124-130.	1.9	11
54	Multiscale study of the porosity of carbon deposits collected in Tore Supra. Journal of Nuclear Materials, 2007, 363-365, 1251-1255.	2.7	10

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55	The heat removal capability of actively cooled plasma-facing components for the ITER divertor. Physica Scripta, 2011, T145, 014080.	2.5	10
56	Contribution of Tore Supra in preparation of ITER. Nuclear Fusion, 2011, 51, 094014.	3.5	10
57	High heat flux test results for a thermal break DEMO divertor target and subsequent design and manufacture development. Fusion Engineering and Design, 2019, 146, 1657-1660.	1.9	10
58	Ultrasonic analysis of tungsten monoblock divertor mock-ups after high heat flux test. Fusion Engineering and Design, 2019, 146, 870-873.	1.9	10
59	Acceptance tests of the industrial series manufacturing of WEST ITER-like tungsten actively cooled divertor. Physica Scripta, 2021, 96, 124029.	2.5	10
60	Ultrasonic test results before and after high heat flux testing on W-monoblock mock-ups of EU-DEMO vertical target. Fusion Engineering and Design, 2020, 160, 111886.	1.9	9
61	Recent Progress in the Development of Helium-Cooled Divertor for DEMO. Fusion Science and Technology, 2015, 67, 732-744.	1.1	8
62	Plasma facing components integration studies for the WEST divertor. Fusion Engineering and Design, 2015, 98-99, 1285-1289.	1.9	8
63	Thermal transport properties of multiphase sintered metals microstructures. The copper-tungsten system: Experiments and modeling. Journal of Applied Physics, 2016, 119, 145104.	2.5	8
64	Tungsten coatings repair: An approach to increase the lifetime of plasma facing components. Fusion Engineering and Design, 2019, 146, 800-804.	1.9	8
65	Design and integration of femtosecond Fiber Bragg gratings temperature probes inside actively cooled ITER-like plasma-facing components. Fusion Engineering and Design, 2021, 166, 112376.	1.9	8
66	Operational limits on WEST inertial divertor sector during the early phase experiment. Physica Scripta, 2016, T167, 014012.	2.5	8
67	Data merging of infrared and ultrasonic images for plasma facing components inspection. Fusion Engineering and Design, 2009, 84, 1593-1597.	1.9	7
68	Microporosity of carbon deposits collected in the Tore Supra tokamak probed by nitrogen and carbon dioxide adsorption. Carbon, 2009, 47, 109-116.	10.3	7
69	Recent development toward the use of infrared thermography as a non destructive technique for defect detection in tungsten plasma facing components. Journal of Nuclear Materials, 2011, 417, 581-585.	2.7	7
70	Qualification and post-mortem investigation of actively cooled tungsten flat-tile mock-ups for WEST divertor. Fusion Engineering and Design, 2018, 136, 403-409.	1.9	7
71	Inverse identification of tungsten static recrystallization kinetics under high thermal flux. Fusion Engineering and Design, 2019, 146, 1759-1763.	1.9	7
72	Performance assessment of high heat flux W monoblock type target using thin graded and copper interlayers for application to DEMO divertor. Fusion Engineering and Design, 2019, 146, 858-861.	1.9	7

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73	Assessment of the high heat flux performance of European DEMO divertor mock-ups. Physica Scripta, 2020, T171, 014003.	2.5	7
74	An Attempt to Assess Recovery/Recrystallization Kinetics in Tungsten at High Temperature Using Statistical Nanoindentation Analysis. Crystals, 2021, 11, 37.	2.2	7
75	Mechanical characterization of W-armoured plasma-facing components after thermal fatigue. Physica Scripta, 2011, T145, 014077.	2.5	6
76	Potential approach of IR-analysis for high heat flux quality assessment of divertor tungsten monoblock components. Fusion Engineering and Design, 2017, 124, 202-206.	1.9	6
77	Results of high heat flux qualification tests of W monoblock components for WEST. Physica Scripta, 2017, T170, 014001.	2.5	6
78	First feedback during series fabrication of ITER like divertor tungsten components for the WEST tokamak. Physica Scripta, 2021, 96, 124037.	2.5	6
79	Influence of CFC quality on the performance of TS limiter elements under cyclic heat loading. Fusion Engineering and Design, 2011, 86, 1579-1582.	1.9	5
80	Critical heat flux acoustic detection: Methods and application to ITER divertor vertical target monitoring. Fusion Engineering and Design, 2013, 88, 1722-1726.	1.9	5
81	Design and manufacturing of WEST Baffle. Fusion Engineering and Design, 2015, 98-99, 1221-1225.	1.9	5
82	Evaluation of tensile and elastic properties of W/Cu cold-spray coatings for application to the FGM DEMO divertor concept. Fusion Engineering and Design, 2021, 171, 112719.	1.9	5
83	First plasma exposure of a pre-damaged ITER-like plasma-facing unit in the WEST tokamak: procedure for the PFU preparation and lessons learned. Nuclear Fusion, 2022, 62, 056010.	3.5	5
84	Technological Study on Manufacturing of Multifinger Module of He-Cooled DEMO Divertor and Investigation of NDE Method. Fusion Science and Technology, 2012, 62, 134-138.	1.1	4
85	The WEST project: validation program for WEST tungsten coated plasma facing components. Physica Scripta, 2016, T167, 014029.	2.5	4
86	Competition between recovery and recrystallization in two tungsten supplies according to ITER specifications. Journal of Materials Science, 2022, 57, 7729-7746.	3.7	4
87	Kinetic Monteâ€“Carlo modeling of hydrogen retention and re-emission from Tore Supra deposits. Journal of Nuclear Materials, 2009, 386-388, 41-44.	2.7	3
88	Non-destructive examination of the bonding interface in DEMO divertor fingers. Fusion Engineering and Design, 2013, 88, 1753-1757.	1.9	3
89	Developments Toward Fully Metallic Actively Cooled Plasma-Facing Components for the Tungsten Divertor in ITER. Fusion Science and Technology, 2013, 64, 727-734.	1.1	3
90	A fatigue lifetime assessment of WEST ITER Like Plasma Facing Unit. Fusion Engineering and Design, 2016, 109-111, 294-298.	1.9	3

#	Article	IF	Citations
91	Tungsten covered graphite and copper elements and ITER-like actively cooled tungsten divertor plasma facing units for the WEST project. Physica Scripta, 2016, T167, 014066.	2.5	3
92	Numerical study of the influence of tungsten recrystallization on the divertor component lifetime. International Journal of Fracture, 2021, 230, 83.	2.2	3
93	Leading edge cracking observed in WEST. Physica Scripta, 0, , .	2.5	3
94	Porous carbon deposits in controlled fusion reactor: adsorption properties and structural characterization. Studies in Surface Science and Catalysis, 2007, 160, 249-256.	1.5	2
95	Thermomechanical simulation of WEST actively cooled upper divertor. Fusion Engineering and Design, 2016, 112, 36-41.	1.9	2
96	Effect of induction heating on flaw generation and expansion. Fusion Engineering and Design, 2018, 136, 1273-1277.	1.9	2
97	Grain growth and damages induced by transient heat loads on W. Physica Scripta, 2021, 96, 124032.	2.5	2
98	Typology of defects in DEMO divertor target mockups. Physica Scripta, 2021, 96, 124065.	2.5	2
99	Assessment of an ITER-like water-cooled divertor for DEMO. , 2013, , .		1
100	Plasma Facing Components: Challenges For Nuclear Materials. EPJ Web of Conferences, 2013, 51, 04005.	0.3	1
101	Reception tests of the WEST PFUs using ultrasonic testing and infrared thermography. Nuclear Materials and Energy, 2022, 32, 101210.	1.3	1
102	T-REX: numerical tool for tungsten damage assessment for DEMO. Journal of Nuclear Materials, 2022, , 153906.	2.7	1
103	Evaluation of peak power flux densities based on full ion orbit calculation: Application to WEST ITER-like target. Fusion Engineering and Design, 2016, 112, 1-6.	1.9	0
104	Results of high heat flux qualification tests of W monoblock components for WEST. Physica Scripta, 2017, T170, 014001.	2.5	0