Jan Horacek

List of Publications by Year
in descending order

125 papers	3,671 citations	109321 35 h-index	161849 54 g-index
126 all docs	126 docs citations	126 times ranked	2175 citing authors

#	Article	IF	Citations
1	Overview of the JET results in support to ITER. Nuclear Fusion, 2017, 57, 102001.	3.5	150
2	Fluctuations and transport in the TCV scrape-off layer. Nuclear Fusion, 2007, 47, 667-676.	3.5	147
3	Interchange turbulence in the TCV scrape-off layer. Plasma Physics and Controlled Fusion, 2006, 48, L1-L10.	2.1	135
4	Physics conclusions in support of ITER W divertor monoblock shaping. Nuclear Materials and Energy, 2017, 12, 60-74.	1.3	128
5	Self-similar density turbulence in the TCV tokamak scrape-off layer. Plasma Physics and Controlled Fusion, 2005, 47, L1-L9.	2.1	108
6	Material erosion and migration in tokamaks. Plasma Physics and Controlled Fusion, 2005, 47, B303-B322.	2.1	105
7	Dissipative processes in interchange driven scrape-off layer turbulence. Nuclear Fusion, 2007, 47, 417-433.	3.5	83
8	ELM-induced transient tungsten melting in the JET divertor. Nuclear Fusion, 2015, 55, 023010.	3.5	83
9	Collisionality dependent transport in TCV SOL plasmas. Plasma Physics and Controlled Fusion, 2007, 49, B47-B57.	2.1	76
10	Efficient generation of energetic ions in multi-ion plasmas by radio-frequency heating. Nature Physics, 2017, 13, 973-978.	16.7	73
11	Overview of the JET results with the ITER-like wall. Nuclear Fusion, 2013, 53, 104002.	3.5	70
12	Status of the COMPASS tokamak and characterization of the first H-mode. Plasma Physics and Controlled Fusion, 2016, 58, 014015.	2.1	70
13	The DEMO wall load challenge. Nuclear Fusion, 2017, 57, 046002.	3.5	65
14	Turbulent transport in the TCV SOL. Journal of Nuclear Materials, 2007, 363-365, 575-580.	2.7	64
15	Parallel SOL flow on TCV. Journal of Nuclear Materials, 2007, 363-365, 505-510.	2.7	59
16	Latest investigations on fluctuations, ELM filaments and turbulent transport in the SOL of ASDEX Upgrade. Nuclear Fusion, 2011, 51, 073023.	3.5	59
17	ELM driven divertor target currents on TCV. Nuclear Fusion, 2003, 43, 1145-1166.	3.5	56
18	Edge flow measurements with Gundestrup probes. Physics of Plasmas, 2001, 8, 1995-2001.	1.9	55

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19	Impact of a narrow limiter SOL heat flux channel on the ITER first wall panel shaping. Nuclear Fusion, 2015, 55, 033019.	3.5	54
20	ELM induced tungsten melting and its impact on tokamak operation. Journal of Nuclear Materials, 2015, 463, 78-84.	2.7	53
21	Overview of the TCV tokamak program: scientific progress and facility upgrades. Nuclear Fusion, 2017, 57, 102011.	3.5	52
22	Scrape-off layer properties of ITER-like limiter start-up plasmas in JET. Nuclear Fusion, 2013, 53, 073016.	3.5	51
23	Divertor geometry effects on detachment in TCV. Journal of Nuclear Materials, 2001, 290-293, 940-946.	2.7	50
24	Overview of the JET results. Nuclear Fusion, 2015, 55, 104001.	3.5	50
25	Theory-based scaling of the SOL width in circular limited tokamak plasmas. Nuclear Fusion, 2013, 53, 122001.	3.5	49
26	Conceptual design of the COMPASS upgrade tokamak. Fusion Engineering and Design, 2017, 123, 11-16.	1.9	49
27	Interpretation of fast measurements of plasma potential, temperature and density in SOL of ASDEX Upgrade. Nuclear Fusion, 2010, 50, 105001.	3.5	48
28	Approximation of the economy of fusion energy. Energy, 2018, 152, 489-497.	8.8	47
29	Ion target impact energy during Type I edge localized modes in JET ITER-like Wall. Plasma Physics and Controlled Fusion, 2015, 57, 085006.	2.1	44
30	Physics research on the TCV tokamak facility: from conventional to alternative scenarios and beyond. Nuclear Fusion, 2019, 59, 112023.	3.5	43
31	Overview of the COMPASS diagnostics. Fusion Engineering and Design, 2011, 86, 1227-1231.	1.9	41
32	Discrepancy between modelled and measured radial electric fields in the scrape-off layer of divertor tokamaks: a challenge for 2D fluid codes?. Nuclear Fusion, 2007, 47, 479-489.	3.5	38
33	Scrape-off layer turbulence in TCV: evidence in support of stochastic modelling. Plasma Physics and Controlled Fusion, 2016, 58, 044006.	2.1	37
34	Multi-machine scaling of the main SOL parallel heat flux width in tokamak limiter plasmas. Plasma Physics and Controlled Fusion, 2016, 58, 074005.	2.1	36
35	Filamentary velocity scaling validation in the TCV tokamak. Physics of Plasmas, 2018, 25, .	1.9	35
36	Statistical properties of electrostatic turbulence in toroidal magnetized plasmas. Plasma Physics and Controlled Fusion, 2007, 49, B281-B290.	2.1	33

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37	Preliminary design of the COMPASS upgrade tokamak. Fusion Engineering and Design, 2021, 169, 112490.	1.9	33
38	Magnetic and electrostatic fluctuations in the CASTOR tokamak. Plasma Physics and Controlled Fusion, 1999, 41, A577-A585.	2.1	32
39	Intermittent fluctuations in the TCV scrape-off layer. Nuclear Fusion, 2015, 55, 062002.	3.5	32
40	Experimental estimation of tungsten impurity sputtering due to Type I ELMs in JET-ITER-like wall using pedestal electron cyclotron emission and target Langmuir probe measurements. Physica Scripta, 2016, T167, 014005.	2.5	31
41	Direct measurements of the plasma potential in ELMy H-mode plasma with ball-pen probes on ASDEX Upgrade tokamak. Journal of Nuclear Materials, 2009, 390-391, 1114-1117.	2.7	30
42	Overview of the TCV tokamak experimental programme. Nuclear Fusion, 2022, 62, 042018.	3.5	30
43	Narrow heat flux channels in the COMPASS limiter scrape-off layer. Journal of Nuclear Materials, 2015, 463, 385-388.	2.7	29
44	Electromagnetic characteristics of geodesic acoustic mode in the COMPASS tokamak. Nuclear Fusion, 2017, 57, 126048.	3.5	29
45	Overview of edge electrostatic turbulence experiments on TCV. European Physical Journal D, 2005, 55, 271-283.	0.4	28
46	Direct Plasma Potential Measurements by Ballâ€Pen Probe and Selfâ€Emitting Langmuir Probe on COMPASS and ASDEX Upgrade. Contributions To Plasma Physics, 2014, 54, 279-284.	1.1	28
47	Sheath heat transmission factors on TCV. Journal of Nuclear Materials, 2007, 363-365, 382-388.	2.7	27
48	Electron temperature and heat load measurements in the COMPASS divertor using the new system of probes. Nuclear Fusion, 2017, 57, 116017.	3.5	27
49	Divertor impurity seeding experiments at the COMPASS tokamak. Nuclear Fusion, 2019, 59, 106035.	3.5	27
50	Recent results from the electron cyclotron heated plasmas in Tokamak Ã Configuration Variable (TCV). Physics of Plasmas, 2003, 10, 1796-1802.	1.9	26
51	Scaling of L-mode heat flux for ITER and COMPASS-U divertors, based on five tokamaks. Nuclear Fusion, 2020, 60, 066016.	3.5	26
52	Predicted effects of parallel temperature gradients on the overestimation of TCV divertor target Langmuir probe Te measurements. Journal of Nuclear Materials, 2003, 313-316, 931-935.	2.7	25
53	An overview of results from the TCV tokamak. Nuclear Fusion, 2003, 43, 1619-1631.	3.5	25
54	Electron attachment and vibrational excitation in hydrogen iodide: calculations based on the nonlocal resonance model. Zeitschrift FÃ¼r Physik D-Atoms Molecules and Clusters, 1997, 42, 181-185.	1.0	24

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55	Title is missing!. European Physical Journal D, 2001, 51, 1001-1010.	0.4	24
56	Ballâ€Pen Probe Measurements in Lâ€Mode and Hâ€Mode on ASDEX Upgrade. Contributions To Plasma Physics, 2010, 50, 854-859.	1.1	24
57	Profile measurements of the electron temperature on the ASDEX Upgrade, COMPASS, and ISTTOK tokamak using Thomson scattering, triple, and ball-pen probes. Review of Scientific Instruments, 2016, 87, 043510.	1.3	23
58	Overview of progress in European medium sized tokamaks towards an integrated plasma-edge/wall solution ^a. Nuclear Fusion, 2017, 57, 102014.	3.5	23
59	Safety factor profile requirements for electron ITB formation in TCV. Plasma Physics and Controlled Fusion, 2005, 47, B107-B120.	2.1	22
60	Advanced probes for edge plasma diagnostics on the CASTOR tokamak. Journal of Physics: Conference Series, 2007, 63, 012001.	0.4	22
61	Poloidal asymmetry in the narrow heat flux feature in the TCV scrape-off layer. Physics of Plasmas, 2017, 24, .	1.9	22
62	Towards Fast Measurement of the Electron Temperature in the SOL of ASDEX Upgrade Using Swept Langmuir Probes. Contributions To Plasma Physics, 2010, 50, 847-853.	1.1	21
63	Overview of physics results from MAST towards ITER/DEMO and the MAST Upgrade. Nuclear Fusion, 2013, 53, 104008.	3.5	21
64	Langmuir Probe Evaluation of the Plasma Potential in Tokamak Edge Plasma for Nonâ€Maxwellian EEDF. Contributions To Plasma Physics, 2014, 54, 267-272.	1.1	19
65	Understanding narrow SOL power flux component in COMPASS limiter plasmas by use of Langmuir probes. Journal of Nuclear Materials, 2015, 463, 381-384.	2.7	19
66	A theoretical interpretation of the main scrape-off layer heat-flux width scaling for tokamak inner-wall limited plasmas. Plasma Physics and Controlled Fusion, 2016, 58, 084003.	2.1	19
67	Investigation of transient melting of tungsten by ELMs in ASDEX Upgrade. Physica Scripta, 2017, T170, 014030.	2.5	19
68	Constraints on conceptual design of diagnostics for the high magnetic field COMPASS-U tokamak with hot walls. Fusion Engineering and Design, 2019, 146, 1703-1707.	1.9	19
69	Theory-based scaling laws of near and far scrape-off layer widths in single-null L-mode discharges. Nuclear Fusion, 2021, 61, 076002.	3.5	19
70	Title is missing!. European Physical Journal D, 2002, 52, 1057-1070.	0.4	18
71	Bi-Maxwellian electron energy distribution function in the vicinity of the last closed flux surface in fusion plasma. Plasma Physics and Controlled Fusion, 2015, 57, 115011.	2.1	18
72	On the transport of edge localized mode filaments in the tokamak scrape-off layer. Nuclear Fusion, 2020, 60, 096014.	3.5	18

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73	Generalization of the nonlocal resonance model for low-energy electron collisions with hydrogen halides: the variable threshold exponent. Theoretical Chemistry Accounts, 1998, 100, 31-35.	1.4	17
74	Intermittent transport across the scrape-off layer: latest results from ASDEX Upgrade. Nuclear Fusion, 2013, 53, 073047.	3.5	17
75	Overview of MAST results. Nuclear Fusion, 2015, 55, 104008.	3.5	16
76	Overview of recent physics results from MAST. Nuclear Fusion, 2017, 57, 102007.	3.5	16
77	Joint experiments on small tokamaks: edge plasma studies on CASTOR. Nuclear Fusion, 2007, 47, 378-386.	3.5	15
78	The effect of plasma fluctuations on parallel transport parameters in the SOL. Journal of Nuclear Materials, 2011, 415, S471-S474.	2.7	15
79	Understanding and suppressing the near scrape-off layer heat flux feature in inboard-limited plasmas in TCV. Nuclear Fusion, 2017, 57, 126029.	3.5	15
80	The influence of molecular dynamics on divertor detachment in TCV. Contributions To Plasma Physics, 2004, 44, 268-273.	1.1	14
81	Steady-state and time-dependent modelling of parallel transport in the scrape-off layer. Plasma Physics and Controlled Fusion, 2011, 53, 065004.	2.1	14
82	Characterization of scrape-off layer transport in JET limiter plasmas. Nuclear Fusion, 2014, 54, 083022.	3.5	14
83	Thermal analysis of an exposed tungsten edge in the JET divertor. Journal of Nuclear Materials, 2015, 463, 415-419.	2.7	14
84	Accessibility and properties of ELMy H-mode and ITB plasmas in TCV. Plasma Physics and Controlled Fusion, 2003, 45, A351-A365.	2.1	13
85	Determination of the plasma position for its real-time control in the COMPASS tokamak. Fusion Engineering and Design, 2011, 86, 1120-1124.	1.9	13
86	Overview of power exhaust experiments in the COMPASS divertor with liquid metals. Nuclear Materials and Energy, 2020, 25, 100801.	1.3	13
87	SOLPS5 modelling of the type III ELMing H-mode on TCV. Journal of Nuclear Materials, 2007, 363-365, 1037-1043.	2.7	11
88	Comparison of scrape-off layer transport in inner and outer wall limited JET plasmas. Journal of Nuclear Materials, 2013, 438, S189-S193.	2.7	11
89	Fast measurements of the electron temperature and parallel heat flux in ELMy H-mode on the COMPASS tokamak. Nuclear Fusion, 2017, 57, 022010.	3.5	11
90	Heat loads on poloidal and toroidal edges of castellated plasma-facing components in COMPASS. Nuclear Fusion, 2018, 58, 066003.	3.5	11

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91	Predictive modelling of liquid metal divertor: from COMPASS tokamak towards Upgrade. Physica Scripta, 2021, 96, 124013.	2.5	11
92	The COMPASS Tokamak Plasma Control Software Performance. IEEE Transactions on Nuclear Science, 2011, 58, 1490-1496.	2.0	10
93	Progress in diagnostics of the COMPASS tokamak. Journal of Instrumentation, 2017, 12, C12015-C12015.	1.2	10
94	Plans for Liquid Metal Divertor in Tokamak Compass. Plasma Physics Reports, 2018, 44, 652-656.	0.9	10
95	Modeling of COMPASS tokamak divertor liquid metal experiments. Nuclear Materials and Energy, 2020, 25, 100860.	1.3	10
96	Present and perspective roles of soft X-ray tomography in tokamak plasma position measurements. Fusion Engineering and Design, 2003, 66-68, 905-909.	1.9	9
97	Isotope effects in vibrational excitation and dissociative electron attachment of DCl and DBr. European Physical Journal D, 2005, 35, 225-230.	1.3	8
98	Radiation distributions in TCV. Journal of Nuclear Materials, 2007, 363-365, 1104-1109.	2.7	7
99	ELM induced divertor heat loads on TCV. Journal of Nuclear Materials, 2009, 390-391, 801-805.	2.7	7
100	Overview of the COMPASS results [*]. Nuclear Fusion, 2022, 62, 042021.	3.5	7
101	Feasibility study of fast swept divertor strike point suppressing transient heat fluxes in big tokamaks. Fusion Engineering and Design, 2017, 123, 646-649.	1.9	6
102	Title is missing!. European Physical Journal D, 2001, 51, 1107-1117.	0.4	5
103	ECH physics and new operational regimes on TCV. Plasma Physics and Controlled Fusion, 2002, 44, B85-B97.	2.1	5
104	Ion temperature measurements in the tokamak scrape-off layer with high temporal resolution. Nuclear Fusion, 2021, 61, 036023.	3.5	5
105	Dissociative attachment of low-energy electrons to vibrationally excited hydrogen molecules. European Physical Journal D, 2002, 52, 29-40.	0.4	4
106	Measurement of sheared flows in the edge plasma of the CASTOR tokamak. Plasma Physics Reports, 2009, 35, 980-986.	0.9	4
107	Assessment of the effect of parallel temperature gradients in the JET SOL on T measured by divertor target Langmuir probes. Journal of Nuclear Materials, 2015, 463, 432-435.	2.7	4
108	Landau Damping Of The LH Grill Spectrum By Tokamak Edge Electrons. , 2009, , .		3

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109	COMPARISON BETWEEN 2D TURBULENCE MODEL ESEL AND EXPERIMENTAL DATA FROM AUG AND COMPASS TOKAMAKS. Acta Polytechnica, 2015, 55, 128-135.	0.6	3
110	Power deposition on misaligned edges in COMPASS. Nuclear Materials and Energy, 2017, 12, 1374-1378.	1.3	3
111	Conceptual design of reciprocating probes and material-testing manipulator for tokamak COMPASS Upgrade. Journal of Instrumentation, 2022, 17, C02007.	1.2	3
112	On the applicability of three and four parameter fits for analysis of swept embedded Langmuir probes in magnetised plasma. Nuclear Fusion, 0, , .	3.5	3
113	Resonances in low-energy rare-gas atom scattering. European Physical Journal D, 1996, 46, 55-65.	0.4	2
114	Discontinuous Galerkin method for the problem of linear elasticity with applications to the fluid-structure interaction. , 2013, , .		2
115	Method of acceleration for iterative solution of scattering equations with local or nonlocal potential. European Physical Journal D, 1984, 34, 1-14.	0.4	1
116	Threshold peak structures in the vibrational excitation of HCl by low-energy electron impact. European Physical Journal D, 1997, 47, 305-315.	0.4	1
117	Use of wavelets in potential scattering problems. European Physical Journal D, 2002, 52, 41-50.	0.4	1
118	Statistical properties of ion and electron temperature fluctuations in the edge of the COMPASS tokamak. Plasma Physics and Controlled Fusion, 2022, 64, 055021.	2.1	1
119	3D deposition patterns of deuterium retention and impurities in the COMPASS divertor: a data-driven root cause analysis and prediction approach. Fusion Engineering and Design, 2022, 179, 113118.	1.9	1
120	Space-charge limitation of secondary electron emission. European Physical Journal D, 1978, 28, 1246-1259.	0.4	0
121	Self-Organized Criticality paradigm. European Physical Journal D, 2000, 50, 42-46.	0.4	0
122	Inelastic low-energy electron collisions with hydrogen halides. AIP Conference Proceedings, 2000, , .	0.4	0
123	Discontinuous Galerkin method for coupled problems of compressible flow and elastic structures. , 2013, , .		0
124	Evaluation of the scrape-off-layer plasma parameters by a horizontal reciprocating Langmuir probe in the COMPASS tokamak. Journal of Physics: Conference Series, 2014, 514, 012049.	0.4	0
125	An Automatic Algorithm for Tracking Small Intestine in CT Enterography. , 2015, , .		0