

Arturo Alonso

List of Publications by Year in descending order

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109
papers

2,771
citations

201674

27
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223800

46
g-index

111
all docs

111
docs citations

111
times ranked

1667
citing authors

#	ARTICLE	IF	CITATIONS
1	Overview of first Wendelstein 7-X high-performance operation. Nuclear Fusion, 2019, 59, 112004.	3.5	165
2	Disruption mitigation by massive gas injection in JET. Nuclear Fusion, 2011, 51, 123010.	3.5	148
3	Major results from the first plasma campaign of the Wendelstein 7-X stellarator. Nuclear Fusion, 2017, 57, 102020.	3.5	128
4	Magnetic configuration effects on the Wendelstein 7-X stellarator. Nature Physics, 2018, 14, 855-860.	16.7	110
5	Performance and properties of the first plasmas of Wendelstein 7-X. Plasma Physics and Controlled Fusion, 2017, 59, 014018.	2.1	103
6	Performance of Wendelstein 7-X stellarator plasmas during the first divertor operation phase. Physics of Plasmas, 2019, 26, .	1.9	83
7	Blob/hole formation and zonal-flow generation in the edge plasma of the JET tokamak. Nuclear Fusion, 2009, 49, 092002.	3.5	81
8	Confinement transitions in TJ-II under Li-coated wall conditions. Nuclear Fusion, 2009, 49, 104018.	3.5	75
9	Overview of the JET results with the ITER-like wall. Nuclear Fusion, 2013, 53, 104002.	3.5	70
10	Demonstration of reduced neoclassical energy transport in Wendelstein 7-X. Nature, 2021, 596, 221-226.	27.8	69
11	Integration of a radiative divertor for heat load control into JET high triangularity ELMy H-mode plasmas. Nuclear Fusion, 2012, 52, 063022.	3.5	58
12	Overview of the JET results. Nuclear Fusion, 2015, 55, 104001.	3.5	50
13	High-performance plasmas after pellet injections in Wendelstein 7-X. Nuclear Fusion, 2020, 60, 066011.	3.5	48
14	Core radial electric field and transport in Wendelstein 7-X plasmas. Physics of Plasmas, 2018, 25, .	1.9	47
15	Overview of diagnostic performance and results for the first operation phase in Wendelstein 7-X (invited). Review of Scientific Instruments, 2016, 87, 11D304.	1.3	45
16	Plasma Potential Evolution Study by HIBP Diagnostic During NBI Experiments in the TJ-II Stellarator. Fusion Science and Technology, 2007, 51, 31-37.	1.1	44
17	Impact of different confinement regimes on the two-dimensional structure of edge turbulence. Plasma Physics and Controlled Fusion, 2006, 48, B465-B473.	2.1	43
18	Electron-cyclotron-resonance heating in Wendelstein 7-X: A versatile heating and current-drive method and a tool for in-depth physics studies. Plasma Physics and Controlled Fusion, 2019, 61, 014037.	2.1	43

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19	Electrostatic potential variation on the flux surface and its impact on impurity transport. Nuclear Fusion, 2017, 57, 056004.	3.5	39
20	Overview of TJ-II experiments. Nuclear Fusion, 2005, 45, S266-S275.	3.5	37
21	ELM pacing investigations at JET with the new pellet launcher. Nuclear Fusion, 2011, 51, 033010.	3.5	35
22	The effect of tangential drifts on neoclassical transport in stellarators close to omnigenity. Plasma Physics and Controlled Fusion, 2017, 59, 055014.	2.1	35
23	Vanishing Neoclassical Viscosity and Physics of the Shear Layer in Stellarators. Physical Review Letters, 2012, 109, 135003.	7.8	34
24	Incompressibility of impurity flows in low density TJ-II plasmas and comparison with neoclassical theory. Nuclear Fusion, 2013, 53, 023003.	3.5	33
25	First Observation of a Stable Highly Dissipative Divertor Plasma Regime on the Wendelstein 7-X Stellarator. Physical Review Letters, 2019, 123, 025002.	7.8	33
26	Turbulence Mechanisms of Enhanced Performance Stellarator Plasmas. Physical Review Letters, 2020, 125, 075001.	7.8	32
27	Charge exchange recombination spectroscopy at Wendelstein 7-X. Review of Scientific Instruments, 2020, 91, 023507.	1.3	29
28	Sheared flows and turbulence in fusion plasmas. Plasma Physics and Controlled Fusion, 2007, 49, B303-B311.	2.1	27
29	Prospects of X-ray imaging spectrometers for impurity transport: Recent results from the stellarator Wendelstein 7-X (invited). Review of Scientific Instruments, 2018, 89, 10G101.	1.3	27
30	Ion temperature clamping in Wendelstein 7-X electron cyclotron heated plasmas. Nuclear Fusion, 2021, 61, 116072.	3.5	27
31	Physics of sheared flow development in the boundary of fusion plasmas. Plasma Physics and Controlled Fusion, 2006, 48, S169-S176.	2.1	25
32	Reciprocating probe measurements of ELM filaments on JET. Plasma Physics and Controlled Fusion, 2009, 51, 105001.	2.1	25
33	Stellarators close to quasisymmetry. Plasma Physics and Controlled Fusion, 2013, 55, 125014.	2.1	25
34	Overview of TJ-II experiments. Nuclear Fusion, 2011, 51, 094022.	3.5	24
35	Electrostatic potential variations along flux surfaces in stellarators. Nuclear Fusion, 2015, 55, 052001.	3.5	24
36	Experimental confirmation of efficient island divertor operation and successful neoclassical transport optimization in Wendelstein 7-X. Nuclear Fusion, 2022, 62, 042022.	3.5	24

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37	Causality detection and turbulence in fusion plasmas. Nuclear Fusion, 2014, 54, 023011.	3.5	23
38	Stellarator impurity flux driven by electric fields tangent to magnetic surfaces. Nuclear Fusion, 2018, 58, 124005.	3.5	23
39	Moderation of neoclassical impurity accumulation in high temperature plasmas of helical devices. Nuclear Fusion, 2017, 57, 016016.	3.5	22
40	Electron internal transport barriers, rationals and quasi-coherent oscillations in the stellarator TJ-II. Plasma Physics and Controlled Fusion, 2005, 47, L57-L63.	2.1	20
41	Spatially resolved H α -emission simulation with EIRENE in TJ-II to study hydrogen atomic and molecular physics in low density, high temperature fusion edge plasmas. Nuclear Fusion, 2008, 48, 095005.	3.5	20
42	Collisionless damping of flows in the TJ-II stellarator. Plasma Physics and Controlled Fusion, 2013, 55, 014015.	2.1	20
43	Observation of Oscillatory Radial Electric Field Relaxation in a Helical Plasma. Physical Review Letters, 2017, 118, 185002.	7.8	20
44	Argon impurity transport studies at Wendelstein 7-X using x-ray imaging spectrometer measurements. Nuclear Fusion, 2017, 57, 086013.	3.5	20
45	Large tangential electric fields in plasmas close to temperature screening. Plasma Physics and Controlled Fusion, 2018, 60, 074004.	2.1	20
46	Moderation of divertor heat loads by fuelling and impurity seeding in well-confined ELMy H-mode plasmas on JET. Nuclear Fusion, 2011, 51, 042001.	3.5	19
47	Changes in plasma potential and turbulent particle flux in the core plasma measured by heavy ion beam probe during L α -H transitions in the TJ-II stellarator. Nuclear Fusion, 2013, 53, 092002.	3.5	19
48	Radial electric field and density fluctuations measured by Doppler reflectometry during the post-pellet enhanced confinement phase in W7-X. Nuclear Fusion, 2021, 61, 046008.	3.5	18
49	Characterization of injection and confinement improvement through impurity induced profile modifications on the Wendelstein 7-X stellarator. Physics of Plasmas, 2021, 28, .	1.9	18
50	Overview of the RFX-mod fusion science programme. Nuclear Fusion, 2013, 53, 104018.	3.5	17
51	Electrostatic potential variations on stellarator magnetic surfaces in low collisionality regimes. Journal of Plasma Physics, 2018, 84, .	2.1	17
52	Electromagnetic turbulent structures: A ubiquitous feature of the edge region of toroidal plasma configurations. Physics of Plasmas, 2015, 22, 012310.	1.9	16
53	3D effects on transport and plasma control in the TJ-II stellarator. Nuclear Fusion, 2017, 57, 102022.	3.5	16
54	Global energy confinement in the initial limiter configuration of Wendelstein 7-X. Nuclear Fusion, 2018, 58, 106029.	3.5	16

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55	Validation of global gyrokinetic simulations in stellarator configurations. Nuclear Fusion, 2019, 59, 076029.	3.5	16
56	Investigation of the neoclassical ambipolar electric field in ion-root plasmas on W7-X. Nuclear Fusion, 2020, 60, 036021.	3.5	16
57	Moderation of target loads using fuelling and impurity seeding on JET. Journal of Nuclear Materials, 2011, 415, S313-S317.	2.7	15
58	Dynamic transport regulation by zonal flow-like structures in the TJ-II stellarator. Nuclear Fusion, 2012, 52, 063010.	3.5	15
59	Confinement in Wendelstein 7-X limiter plasmas. Nuclear Fusion, 2017, 57, 086010.	3.5	15
60	Damping of radial electric field fluctuations in the TJ-II stellarator. Plasma Physics and Controlled Fusion, 2013, 55, 124044.	2.1	14
61	Wall conditioning throughout the first carbon divertor campaign on Wendelstein 7-X. Nuclear Materials and Energy, 2018, 17, 235-241.	1.3	14
62	On-surface potential and radial electric field variations in electron root stellarator plasmas. Plasma Physics and Controlled Fusion, 2018, 60, 104002.	2.1	14
63	Electron Internal Transport Barriers and Magnetic Topology in the Stellarator TJ-II. Fusion Science and Technology, 2006, 50, 127-135.	1.1	13
64	MHD mode activity and the velocity shear layer at TJ-II. Nuclear Fusion, 2012, 52, 013006.	3.5	13
65	Compressible impurity flow in the TJ-II stellarator. Nuclear Fusion, 2014, 54, 013008.	3.5	13
66	The use of the biorthogonal decomposition for the identification of zonal flows at TJ-II. Plasma Physics and Controlled Fusion, 2015, 57, 025005.	2.1	13
67	Particle transport after pellet injection in the TJ-II stellarator. Plasma Physics and Controlled Fusion, 2016, 58, 084004.	2.1	13
68	Influence of long-scale length radial electric field components on zonal flow-like structures in the TJ-II stellarator. Plasma Physics and Controlled Fusion, 2016, 58, 084005.	2.1	13
69	An experimental characterization of core turbulence regimes in Wendelstein 7-X. Nuclear Fusion, 0, , .	3.5	13
70	Electromagnetic analysis of breakdown conditions in JET. Fusion Engineering and Design, 2011, 86, 675-679.	1.9	12
71	Overview of recent TJ-II stellarator results. Nuclear Fusion, 2019, 59, 112019.	3.5	12
72	First experiments on ICRF discharge generation by a W7-X-like antenna in the Uragan-2M stellarator. Journal of Plasma Physics, 2020, 86, .	2.1	12

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73	The dynamics of the formation of the edge particle transport barrier at TJ-II. Nuclear Fusion, 2011, 51, 113002.	3.5	11
74	Dynamical Coupling between Gradients and Transport in Fusion Plasmas. Physical Review Letters, 2012, 108, 065001.	7.8	11
75	Physics design point of high-field stellarator reactors. Nuclear Fusion, 2022, 62, 036024.	3.5	11
76	Dynamics of zonal-flow-like structures in the edge of the TJ-II stellarator. Plasma Physics and Controlled Fusion, 2013, 55, 014001.	2.1	10
77	Optimizing stellarators for large flows. Plasma Physics and Controlled Fusion, 2014, 56, 094003.	2.1	10
78	Parallel impurity dynamics in the TJ-II stellarator. Plasma Physics and Controlled Fusion, 2016, 58, 074009.	2.1	10
79	Overview of TJ-II experiments. Nuclear Fusion, 2007, 47, S677-S685.	3.5	9
80	Transport, stability and plasma control studies in the TJ-II stellarator. Nuclear Fusion, 2015, 55, 104014.	3.5	9
81	Impurity transport studies at Wendelstein 7-X by means of x-ray imaging spectrometer measurements. Plasma Physics and Controlled Fusion, 2019, 61, 014030.	2.1	9
82	Overview of the TJ-II stellarator research programme towards model validation in fusion plasmas. Nuclear Fusion, 2022, 62, 042025.	3.5	9
83	Radial electric fields and confinement in the TJ-II stellarator. European Physical Journal D, 2005, 55, 317-339.	0.4	8
84	Turbulence studies by fast camera imaging experiments in the TJII stellarator. Journal of Nuclear Materials, 2009, 390-391, 457-460.	2.7	8
85	Fast visible imaging of ELM-wall interactions on JET. Journal of Nuclear Materials, 2009, 390-391, 797-800.	2.7	8
86	The Visible Intensified Cameras for Plasma Imaging in the TJ-II Stellarator. Contributions To Plasma Physics, 2011, 51, 742-753.	1.1	8
87	First Results from the Soft X-ray Pulse Height Analysis System on Wendelstein 7-X Stellarator. Fusion Engineering and Design, 2018, 136, 58-62.	1.9	8
88	Oscillatory relaxation of zonal flows in a multi-species stellarator plasma. Plasma Physics and Controlled Fusion, 2018, 60, 094003.	2.1	8
89	Study of the plasma potential evolution during ECRH in the T-10 tokamak and TJ-II stellarator. European Physical Journal D, 2005, 55, 1569-1578.	0.4	7
90	Fast visible camera installation and operation in JET. AIP Conference Proceedings, 2008, , .	0.4	7

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91	On the link between parallel flows, turbulence and electric fields in the edge of the TJ-II stellarator. Europhysics Letters, 2009, 85, 25002.	2.0	7
92	Spontaneous edge E \tilde{A} – B sheared flow development studies in the TJ-II stellarator. European Physical Journal D, 2005, 55, 1579-1587.	0.4	6
93	Two-Dimensional Turbulence Analysis Using High-Speed Visible Imaging in TJ-II Edge Plasmas. Fusion Science and Technology, 2006, 50, 301-306.	1.1	6
94	Application of optical flow method for imaging diagnostic in JET. Journal of Nuclear Materials, 2010, 400, 205-212.	2.7	6
95	Hydrogen recycling and puffing at a poloidal limiter of TJ-II. Journal of Nuclear Materials, 2007, 363-365, 764-769.	2.7	5
96	Innovative diagnostics for ITER physics addressed in JET. Plasma Physics and Controlled Fusion, 2008, 50, 124043.	2.1	5
97	Dynamics of flows and confinement in the TJ-II stellarator. Nuclear Fusion, 2013, 53, 104016.	3.5	5
98	Flow damping in stellarators close to quasisymmetry. Plasma Physics and Controlled Fusion, 2015, 57, 014014.	2.1	5
99	Plasma Production in ICRF in the Uragan-2M Stellarator in Hydrogen–Helium Gas Mixture. Journal of Fusion Energy, 2022, 41, .	1.2	5
100	Determination of the pellet parameters by image processing methods. Fusion Engineering and Design, 2011, 86, 1186-1190.	1.9	4
101	Correction and verification of x-ray imaging crystal spectrometer analysis on Wendelstein 7-X through x-ray ray tracing. Review of Scientific Instruments, 2021, 92, 043530.	1.3	4
102	Validation of theory-based models for the control of plasma currents in W7-X divertor plasmas. Nuclear Fusion, 2021, 61, 126022.	3.5	4
103	Quasi-coherent Oscillations in the TJ-II Stellarator. AIP Conference Proceedings, 2006, , .	0.4	3
104	Plasma flow measurements based on charge exchange recombination spectroscopy in the Wendelstein 7-X stellarator. Nuclear Fusion, 2022, 62, 106005.	3.5	2
105	Control and data acquisition system for the multiple cell array detector of the TJ-II heavy ion beam diagnostic. Fusion Engineering and Design, 2006, 81, 1885-1889.	1.9	1
106	Recent developments in data mining and soft computing for JET with a view on ITER. Fusion Engineering and Design, 2009, 84, 1372-1375.	1.9	1
107	Study of impurity behaviour for first magnetic configuration changes in W7-X plasmas by means of PHA spectra. Fusion Engineering and Design, 2018, 136, 1286-1290.	1.9	1
108	Combining research with safety: Performance of the Wendelstein 7-X video diagnostic system. Fusion Engineering and Design, 2019, 146, 874-877.	1.9	1

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109	On the role of density fluctuations in the core turbulent transport of Wendelstein 7-X. Plasma Physics and Controlled Fusion, 0, , .	2.1	1