

Laurent Colas

List of Publications by Year in descending order

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1,921
citations

236925

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315739

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90
docs citations

90
times ranked

1128
citing authors

#	ARTICLE	IF	CITATIONS
1	Overview of the JET preparation for deuterium-tritium operation with the ITER like-wall. Nuclear Fusion, 2019, 59, 112021.	3.5	87
2	WEST Physics Basis. Nuclear Fusion, 2015, 55, 063017.	3.5	82
3	Edge plasma density convection during ion cyclotron resonance heating on Tore Supra. Physics of Plasmas, 2002, 9, 2619-2632.	1.9	76
4	Heat loads on JET plasma facing components from ICRF and LH wave absorption in the SOL. Nuclear Fusion, 2011, 51, 103018.	3.5	62
5	Optimization of ICRH for core impurity control in JET-ILW. Nuclear Fusion, 2016, 56, 036022.	3.5	59
6	Making ICRF power compatible with a high-Z wall in ASDEX Upgrade. Plasma Physics and Controlled Fusion, 2017, 59, 014022.	2.1	59
7	Self consistent radio-frequency wave propagation and peripheral direct current plasma biasing: Simplified three dimensional non-linear treatment in the wide sheath-asymptotic regime. Physics of Plasmas, 2012, 19, 092505.	1.9	55
8	Internal magnetic fluctuations and electron heat transport in the Tore Supra tokamak: Observation by cross-polarization scattering. Nuclear Fusion, 1998, 38, 903-918.	3.5	54
9	Radio-frequency sheaths physics: Experimental characterization on Tore Supra and related self-consistent modeling. Physics of Plasmas, 2014, 21, 061509.	1.9	54
10	Hot spot phenomena on Tore Supra ICRF antennas investigated by optical diagnostics. Nuclear Fusion, 2003, 43, 1-15.	3.5	53
11	RF current distribution and topology of RF sheath potentials in front of ICRF antennae. Nuclear Fusion, 2005, 45, 767-782.	3.5	52
12	Understanding the spatial structure of RF-induced SOL modifications. Plasma Physics and Controlled Fusion, 2007, 49, B35-B45.	2.1	52
13	Operating a full tungsten actively cooled tokamak: overview of WEST first phase of operation. Nuclear Fusion, 2022, 62, 042007.	3.5	39
14	Overview of physics studies on ASDEX Upgrade. Nuclear Fusion, 2019, 59, 112014.	3.5	38
15	2-D mapping of ICRF-induced SOL perturbations in Tore Supra tokamak. Journal of Nuclear Materials, 2007, 363-365, 555-559.	2.7	36
16	2D and 3D modeling of wave propagation in cold magnetized plasma near the Tore Supra ICRH antenna relying on the perfectly matched layer technique. Plasma Physics and Controlled Fusion, 2013, 55, 115004.	2.1	35
17	ICRF specific plasma wall interactions in JET with the ITER-like wall. Journal of Nuclear Materials, 2013, 438, S160-S165.	2.7	35
18	Impact of ICRF on the scrape-off layer and on plasma wall interactions: From present experiments to fusion reactor. Nuclear Materials and Energy, 2019, 18, 131-140.	1.3	34

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19	Maximization of ICRF power by SOL density tailoring with local gas injection. Nuclear Fusion, 2016, 56, 046001.	3.5	33
20	RF heating optimization on Tore Supra using feedback control of infrared measurements. Fusion Engineering and Design, 2007, 82, 1030-1035.	1.9	32
21	Ion cyclotron resonance heating for tungsten control in various JET H-mode scenarios. Plasma Physics and Controlled Fusion, 2017, 59, 055001.	2.1	32
22	Impact of localized gas injection on ICRF coupling and SOL parameters in JET-ILW H-mode plasmas. Journal of Nuclear Materials, 2015, 463, 634-639.	2.7	31
23	Validation of the ICRF antenna coupling code RAPLICASOL against TOPICA and experiments. Nuclear Fusion, 2019, 59, 046001.	3.5	31
24	Impurity production from the ion cyclotron resonance heating antennas in JET. Plasma Physics and Controlled Fusion, 2012, 54, 074013.	2.1	28
25	Validation of the load-resilient ion cyclotron resonance frequency antenna concept on Tore Supra plasmas. Nuclear Fusion, 2008, 48, 065007.	3.5	26
26	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
27	ICRF antenna-plasma interactions and its influence on W sputtering in ASDEX upgrade. Journal of Nuclear Materials, 2011, 415, S1005-S1008.	2.7	24
28	RF sheath-enhanced beryllium sources at JET's ICRH antennas. Journal of Nuclear Materials, 2013, 438, S594-S598.	2.7	23
29	Influence of gas injection location and magnetic perturbations on ICRF antenna performance in ASDEX Upgrade. , 2014, , .		23
30	RF-sheath patterns modification via novel Faraday screen and strap voltage imbalance on Tore Supra ion cyclotron antennae. Journal of Nuclear Materials, 2013, 438, S330-S333.	2.7	22
31	Full wave propagation modelling in view to integrated ICRH wave coupling/RF sheaths modelling. AIP Conference Proceedings, 2015, , .	0.4	22
32	Measurement of sheath potential in RF-biased flux tubes using a retarding field analyzer in Tore Supra tokamak. Journal of Nuclear Materials, 2013, 438, S509-S512.	2.7	20
33	Nonlinear plasma sheath potential in the ASDEX Upgrade 3-strap antenna: a parameter scan. Nuclear Fusion, 2017, 57, 116034.	3.5	20
34	Effects of ICRF induced density modifications on LH wave coupling at JET. Plasma Physics and Controlled Fusion, 2009, 51, 044003.	2.1	19
35	Ion Cyclotron Resonant Heating in Tore Supra. Fusion Science and Technology, 2009, 56, 1173-1204.	1.1	19
36	Progress in controlling ICRF-edge interactions in ASDEX upgrade. AIP Conference Proceedings, 2015, , .	0.4	19

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37	Spatial proximity effects on the excitation of sheath RF voltages by evanescent slow waves in the ion cyclotron range of frequencies. <i>Plasma Physics and Controlled Fusion</i> , 2017, 59, 025014.	2.1	18
38	The geometry of the ICRF-induced waveâ€“SOL interaction. A multi-machine experimental review in view of the ITER operation. <i>Nuclear Fusion</i> , 2022, 62, 016014.	3.5	18
39	Parametric study of two-dimensional potential structures induced by radio-frequency sheaths coupled with transverse currents in front of the Ion Cyclotron Resonance Heating antenna. <i>Physics of Plasmas</i> , 2006, 13, 042512.	1.9	17
40	Characterisation of local ICRF heat loads on the JET ILW. <i>Journal of Nuclear Materials</i> , 2013, 438, S379-S383.	2.7	17
41	Ion cyclotron resonance frequency heating in JET during initial operations with the ITER-like wall. <i>Physics of Plasmas</i> , 2014, 21, 061510.	1.9	16
42	WEST actively cooled load resilient ion cyclotron resonance heating system results. <i>Nuclear Fusion</i> , 2021, 61, 096030.	3.5	16
43	Dynamic Stark Spectroscopic Measurements of Microwave Electric Fields Inside the Plasma Near a High-Power Antenna. <i>Physical Review Letters</i> , 2013, 110, 215005.	7.8	15
44	Radio-frequency electrical design of the WEST long pulse and load-resilient ICRH launchers. <i>Fusion Engineering and Design</i> , 2015, 96-97, 473-476.	1.9	14
45	Estimates of RF-induced erosion at antenna-connected beryllium plasma-facing components in JET. <i>Physica Scripta</i> , 2016, T167, 014035.	2.5	14
46	Radio frequency heating induced edge plasma convection: self-consistent simulations and experiments on ASDEX Upgrade. <i>Nuclear Fusion</i> , 2017, 57, 116048.	3.5	14
47	Density Convection near Radiating ICRF Antennas and its Effect on the Coupling of Lower Hybrid Waves. <i>AIP Conference Proceedings</i> , 2003, , .	0.4	13
48	Heat flux calculation and problem of flaking of boron carbide coatings on the Faraday screen of the ICRH antennas during Tore Supra high power, long pulse operation. <i>Fusion Engineering and Design</i> , 2011, 86, 429-441.	1.9	13
49	Modelling of the ICRF induced <i>E</i> â€“ <i>B</i> convection in the scrape-off-layer of ASDEX Upgrade. <i>Plasma Physics and Controlled Fusion</i> , 2016, 58, 095005.	2.1	13
50	Ion cyclotron resonance heating systems upgrade toward high power and CW operations in WEST. <i>AIP Conference Proceedings</i> , 2015, , .	0.4	12
51	Localized Scrape-Off Layer density modifications by Ion Cyclotron near fields in JET and ASDEX-Upgrade L-mode plasmas. <i>Journal of Nuclear Materials</i> , 2015, 463, 735-738.	2.7	12
52	Ion cyclotron wave coupling in the magnetized plasma edge of tokamaks: impact of a finite, inhomogeneous density inside the antenna box. <i>Plasma Physics and Controlled Fusion</i> , 2016, 58, 055001.	2.1	12
53	Effects of outer top gas injection on ICRF coupling in ASDEX Upgrade: towards modelling of ITER gas injection. <i>Plasma Physics and Controlled Fusion</i> , 2017, 59, 075004.	2.1	12
54	Characterization of 3-strap antennas in ASDEX Upgrade. <i>EPJ Web of Conferences</i> , 2017, 157, 03005.	0.3	12

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55	2-dimensional mapping of ICRF-induced scrape-off layer modifications with a retarding field analyser on ASDEX-Upgrade. AIP Conference Proceedings, 2014, , .	0.4	11
56	Progress in reducing ICRF-specific impurity release in ASDEX upgrade and JET. Nuclear Materials and Energy, 2017, 12, 1194-1198.	1.3	11
57	Metallic impurity sources behavior during ICRH in EAST. Nuclear Materials and Energy, 2018, 17, 274-278.	1.3	11
58	Numerical solutions of Maxwell's equations in 3D in frequency domain with linear sheath boundary conditions. Physics of Plasmas, 2019, 26, 083501.	1.9	11
59	Slab-geometry surface waves on steep gradients and the origin of related numerical issues in a variety of ICRF codes. Journal of Plasma Physics, 2021, 87, .	2.1	11
60	Generation of DC currents by ICRF near fields in the Scrape-off Layer. Journal of Nuclear Materials, 2011, 415, S1009-S1012.	2.7	10
61	The role of power and magnetic connection to the active antenna in the suppression of intermittent structures by ion cyclotron resonance heating. Nuclear Fusion, 2012, 52, 103005.	3.5	10
62	Modelling of radio frequency sheath and fast wave coupling on the realistic ion cyclotron resonant antenna surroundings and the outer wall. Plasma Physics and Controlled Fusion, 2018, 60, 035003.	2.1	10
63	Optimization of discharges with ion cyclotron range of frequencies using local gas injection in EAST. Nuclear Fusion, 2019, 59, 066023.	3.5	10
64	Metallic impurity content behavior during ICRH-heated L-mode discharges in EAST. Nuclear Fusion, 2020, 60, 126003.	3.5	10
65	SOL RF physics modelling in Europe, in support of ICRF experiments. EPJ Web of Conferences, 2017, 157, 01001.	0.3	9
66	Perfectly Matched Layers for time-harmonic transverse electric wave propagation in cylindrical and toroidal gyrotropic media. Journal of Computational Physics, 2019, 389, 94-110.	3.8	9
67	Perspective of analogy between heat loads and impurity production in L-mode discharges with ICRH in WEST. Nuclear Materials and Energy, 2021, 26, 100925.	1.3	9
68	RF Coupling and Antenna Heat Load Control for Combined LHCD and ICRH in Tore Supra. AIP Conference Proceedings, 2007, , .	0.4	8
69	Physics and technology in the ion-cyclotron range of frequency on Tore Supra and TITAN test facility: implication for ITER. Nuclear Fusion, 2013, 53, 083012.	3.5	8
70	RF wave coupling, plasma heating and characterization of induced plasma-material interactions in WEST L-mode discharges. Nuclear Fusion, 2021, 61, 086027.	3.5	8
71	RF-sheath heat flux estimates on Tore Supra and JET ICRF antennae. Extrapolation to ITER. , 2009, , .		7
72	Study of wave propagation in various kinds of plasmas using adapted simulation methods, with illustrations on possible future applications. Comptes Rendus Physique, 2014, 15, 421-429.	0.9	7

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73	SIDON: A simulator of radio-frequency networks. Application to WEST ICRF launchers. AIP Conference Proceedings, 2015, , .	0.4	7
74	Numerical analysis of the impact of an RF sheath on the Scrape-Off Layer in 2D and 3D turbulence simulations. Nuclear Materials and Energy, 2017, 12, 1171-1177.	1.3	7
75	Resonant waveâ€œfilament interactions as a loss mechanism for HHFW heating and current drive. Plasma Physics and Controlled Fusion, 2022, 64, 035001.	2.1	7
76	Spectroscopic investigation of heavy impurity behaviour during ICRH with the JET ITER-like wall. , 2014, , .		6
77	Simulation as a tool to improve wave heating in fusion plasmas. Journal of Plasma Physics, 2015, 81, .	2.1	6
78	3-Dimensional density profiles in edge plasma simulations for ICRF heating. EPJ Web of Conferences, 2017, 157, 03053.	0.3	6
79	ICRH physics and technology achievements in JET-ILW. EPJ Web of Conferences, 2017, 157, 02004.	0.3	5
80	RF sheath modeling of experimentally observed plasma surface interactions with the JET ITER-Like Antenna. Nuclear Materials and Energy, 2019, 19, 324-329.	1.3	5
81	First application of Ion Cyclotron resonant frequency waves on WEST plasma scenarios. AIP Conference Proceedings, 2020, , .	0.4	5
82	On the origin of high harmonic fast wave edge losses in NSTX. Nuclear Fusion, 2022, 62, 096011.	3.5	5
83	Characterization of local heat fluxes around ICRF antennas on JET. AIP Conference Proceedings, 2014, , .	0.4	4
84	Recent improvements to the ICRF antenna coupling code â€œRPLICASOLâ€œ. AIP Conference Proceedings, 2020, , .	0.4	4
85	Characterizations and first plasma operation of the WEST load-resilient actively cooled ICRF launchers. AIP Conference Proceedings, 2020, , .	0.4	4
86	Development of long pulse RF heating and current drive for H-mode scenarios with metallic walls in WEST. AIP Conference Proceedings, 2015, , .	0.4	3
87	ICRH coupling optimization and impurity behavior in EAST and WEST. AIP Conference Proceedings, 2020, , .	0.4	3
88	Optimizing ion-cyclotron resonance frequency heating for ITER: dedicated JET experiments. Plasma Physics and Controlled Fusion, 2012, 54, 069601.	2.1	2
89	Heat loads from ICRF and LH wave absorption in the SOL: characterization on JET and implications for the ITER-Like Wall. AIP Conference Proceedings, 2011, , .	0.4	1
90	RF Sheath-Enhanced Plasma Surface Interaction Studies using Beryllium Optical Emission Spectroscopy in JET ITER-Like Wall. EPJ Web of Conferences, 2017, 157, 03024.	0.3	1