

# Laurent Colas

## List of Publications by Year in descending order

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all docs

90  
docs citations

90  
times ranked

1128  
citing authors

#	ARTICLE	IF	CITATIONS
1	Operating a full tungsten actively cooled tokamak: overview of WEST first phase of operation. Nuclear Fusion, 2022, 62, 042007.	3.5	39
2	The geometry of the ICRF-induced waveâ€“SOL interaction. A multi-machine experimental review in view of the ITER operation. Nuclear Fusion, 2022, 62, 016014.	3.5	18
3	Resonant waveâ€“filament interactions as a loss mechanism for HHFW heating and current drive. Plasma Physics and Controlled Fusion, 2022, 64, 035001.	2.1	7
4	On the origin of high harmonic fast wave edge losses in NSTX. Nuclear Fusion, 2022, 62, 096011.	3.5	5
5	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
6	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
7	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
8	WEST actively cooled load resilient ion cyclotron resonance heating system results. Nuclear Fusion, 2021, 61, 096030.	3.5	16
9	First application of Ion Cyclotron resonant frequency waves on WEST plasma scenarios. AIP Conference Proceedings, 2020, , .	0.4	5
10	ICRH coupling optimization and impurity behavior in EAST and WEST. AIP Conference Proceedings, 2020, , .	0.4	3
11	Recent improvements to the ICRF antenna coupling code â€œRAPLICASOLâ€œ. AIP Conference Proceedings, 2020, , .	0.4	4
12	Characterizations and first plasma operation of the WEST load-resilient actively cooled ICRF launchers. AIP Conference Proceedings, 2020, , .	0.4	4
13	Metallic impurity content behavior during ICRH-heated L-mode discharges in EAST. Nuclear Fusion, 2020, 60, 126003.	3.5	10
14	Overview of physics studies on ASDEX Upgrade. Nuclear Fusion, 2019, 59, 112014.	3.5	38
15	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
16	Optimization of discharges with ion cyclotron range of frequencies using local gas injection in EAST. Nuclear Fusion, 2019, 59, 066023.	3.5	10
17	Overview of the JET preparation for deuteriumâ€“tritium operation with the ITER like-wall. Nuclear Fusion, 2019, 59, 112021.	3.5	87
18	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

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19	Perfectly Matched Layers for time-harmonic transverse electric wave propagation in cylindrical and toroidal gyrotropic media. <i>Journal of Computational Physics</i> , 2019, 389, 94-110.	3.8	9
20	Validation of the ICRF antenna coupling code RAPLICASOL against TOPICA and experiments. <i>Nuclear Fusion</i> , 2019, 59, 046001.	3.5	31
21	Impact of ICRF on the scrape-off layer and on plasma wall interactions: From present experiments to fusion reactor. <i>Nuclear Materials and Energy</i> , 2019, 18, 131-140.	1.3	34
22	Modelling of radio frequency sheath and fast wave coupling on the realistic ion cyclotron resonant antenna surroundings and the outer wall. <i>Plasma Physics and Controlled Fusion</i> , 2018, 60, 035003.	2.1	10
23	Metallic impurity sources behavior during ICRH in EAST. <i>Nuclear Materials and Energy</i> , 2018, 17, 274-278.	1.3	11
24	Progress in reducing ICRF-specific impurity release in ASDEX upgrade and JET. <i>Nuclear Materials and Energy</i> , 2017, 12, 1194-1198.	1.3	11
25	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
26	Ion cyclotron resonance heating for tungsten control in various JET H-mode scenarios. <i>Plasma Physics and Controlled Fusion</i> , 2017, 59, 055001.	2.1	32
27	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
28	Numerical analysis of the impact of an RF sheath on the Scrape-Off Layer in 2D and 3D turbulence simulations. <i>Nuclear Materials and Energy</i> , 2017, 12, 1171-1177.	1.3	7
29	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
30	Making ICRF power compatible with a high-Z wall in ASDEX Upgrade. <i>Plasma Physics and Controlled Fusion</i> , 2017, 59, 014022.	2.1	59
31	Nonlinear plasma sheath potential in the ASDEX Upgrade 3-strap antenna: a parameter scan. <i>Nuclear Fusion</i> , 2017, 57, 116034.	3.5	20
32	ICRH physics and technology achievements in JET-ILW. <i>EPJ Web of Conferences</i> , 2017, 157, 02004.	0.3	5
33	SOL RF physics modelling in Europe, in support of ICRF experiments. <i>EPJ Web of Conferences</i> , 2017, 157, 01001.	0.3	9
34	Characterization of 3-strap antennas in ASDEX Upgrade. <i>EPJ Web of Conferences</i> , 2017, 157, 03005.	0.3	12
35	RF Sheath-Enhanced Plasma Surface Interaction Studies using Beryllium Optical Emission Spectroscopy in JET ITER-Like Wall. <i>EPJ Web of Conferences</i> , 2017, 157, 03024.	0.3	1
36	3-Dimensional density profiles in edge plasma simulations for ICRF heating. <i>EPJ Web of Conferences</i> , 2017, 157, 03053.	0.3	6

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37	Modelling of the ICRF induced $E \times B$ convection in the scrape-off-layer of ASDEX Upgrade. Plasma Physics and Controlled Fusion, 2016, 58, 095005.	2.1	13
38	Maximization of ICRF power by SOL density tailoring with local gas injection. Nuclear Fusion, 2016, 56, 046001.	3.5	33
39	Ion cyclotron wave coupling in the magnetized plasma edge of tokamaks: impact of a finite, inhomogeneous density inside the antenna box. Plasma Physics and Controlled Fusion, 2016, 58, 055001.	2.1	12
40	Optimization of ICRH for core impurity control in JET-ILW. Nuclear Fusion, 2016, 56, 036022.	3.5	59
41	Estimates of RF-induced erosion at antenna-connected beryllium plasma-facing components in JET. Physica Scripta, 2016, T167, 014035.	2.5	14
42	Simulation as a tool to improve wave heating in fusion plasmas. Journal of Plasma Physics, 2015, 81, .	2.1	6
43	Full wave propagation modelling in view to integrated ICRH wave coupling/RF sheaths modelling. AIP Conference Proceedings, 2015, , .	0.4	22
44	Ion cyclotron resonance heating systems upgrade toward high power and CW operations in WEST. AIP Conference Proceedings, 2015, , .	0.4	12
45	Progress in controlling ICRF-edge interactions in ASDEX upgrade. AIP Conference Proceedings, 2015, , .	0.4	19
46	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
47	SIDON: A simulator of radio-frequency networks. Application to WEST ICRF launchers. AIP Conference Proceedings, 2015, , .	0.4	7
48	WEST Physics Basis. Nuclear Fusion, 2015, 55, 063017.	3.5	82
49	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
50	Radio-frequency electrical design of the WEST long pulse and load-resilient ICRH launchers. Fusion Engineering and Design, 2015, 96-97, 473-476.	1.9	14
51	Localized Scrape-Off Layer density modifications by Ion Cyclotron near fields in JET and ASDEX-Upgrade L-mode plasmas. Journal of Nuclear Materials, 2015, 463, 735-738.	2.7	12
52	Spectroscopic investigation of heavy impurity behaviour during ICRH with the JET ITER-like wall. , 2014, , .		6
53	Influence of gas injection location and magnetic perturbations on ICRF antenna performance in ASDEX Upgrade. , 2014, , .		23
54	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

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55	Characterization of local heat fluxes around ICRF antennas on JET. AIP Conference Proceedings, 2014, ,	0.4	4
56	Ion cyclotron resonance frequency heating in JET during initial operations with the ITER-like wall. Physics of Plasmas, 2014, 21, 061510.	1.9	16
57	Radio-frequency sheaths physics: Experimental characterization on Tore Supra and related self-consistent modeling. Physics of Plasmas, 2014, 21, 061509.	1.9	54
58	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
59	RF sheath-enhanced beryllium sources at JET's ICRH antennas. Journal of Nuclear Materials, 2013, 438, S594-S598.	2.7	23
60	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
61	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
62	Characterisation of local ICRF heat loads on the JET ILW. Journal of Nuclear Materials, 2013, 438, S379-S383.	2.7	17
63	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
64	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
65	ICRF specific plasma wall interactions in JET with the ITER-like wall. Journal of Nuclear Materials, 2013, 438, S160-S165.	2.7	35
66	Dynamic Stark Spectroscopic Measurements of Microwave Electric Fields Inside the Plasma Near a High-Power Antenna. Physical Review Letters, 2013, 110, 215005.	7.8	15
67	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
68	Impurity production from the ion cyclotron resonance heating antennas in JET. Plasma Physics and Controlled Fusion, 2012, 54, 074013.	2.1	28
69	Optimizing ion-cyclotron resonance frequency heating for ITER: dedicated JET experiments. Plasma Physics and Controlled Fusion, 2012, 54, 069601.	2.1	2
70	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
71	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
72	Heat loads on JET plasma facing components from ICRF and LH wave absorption in the SOL. Nuclear Fusion, 2011, 51, 103018.	3.5	62

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73	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
74	ICRF antenna-plasma interactions and its influence on W sputtering in ASDEX upgrade. Journal of Nuclear Materials, 2011, 415, S1005-S1008.	2.7	24
75	Generation of DC currents by ICRF near fields in the Scrape-off Layer. Journal of Nuclear Materials, 2011, 415, S1009-S1012.	2.7	10
76	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. Fusion Engineering and Design, 2011, 86, 429-441.	1.9	13
77	Effects of ICRF induced density modifications on LH wave coupling at JET. Plasma Physics and Controlled Fusion, 2009, 51, 044003.	2.1	19
78	RF-sheath heat flux estimates on Tore Supra and JET ICRF antennae. Extrapolation to ITER. , 2009, , .		7
79	Ion Cyclotron Resonant Heating in Tore Supra. Fusion Science and Technology, 2009, 56, 1173-1204.	1.1	19
80	Validation of the load-resilient ion cyclotron resonance frequency antenna concept on Tore Supra plasmas. Nuclear Fusion, 2008, 48, 065007.	3.5	26
81	RF Coupling and Antenna Heat Load Control for Combined LHCD and ICRH in Tore Supra. AIP Conference Proceedings, 2007, , .	0.4	8
82	Understanding the spatial structure of RF-induced SOL modifications. Plasma Physics and Controlled Fusion, 2007, 49, B35-B45.	2.1	52
83	RF heating optimization on Tore Supra using feedback control of infrared measurements. Fusion Engineering and Design, 2007, 82, 1030-1035.	1.9	32
84	2-D mapping of ICRF-induced SOL perturbations in Tore Supra tokamak. Journal of Nuclear Materials, 2007, 363-365, 555-559.	2.7	36
85	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. Physics of Plasmas, 2006, 13, 042512.	1.9	17
86	RF current distribution and topology of RF sheath potentials in front of ICRF antennae. Nuclear Fusion, 2005, 45, 767-782.	3.5	52
87	Density Convection near Radiating ICRF Antennas and its Effect on the Coupling of Lower Hybrid Waves. AIP Conference Proceedings, 2003, , .	0.4	13
88	Hot spot phenomena on Tore Supra ICRF antennas investigated by optical diagnostics. Nuclear Fusion, 2003, 43, 1-15.	3.5	53
89	Edge plasma density convection during ion cyclotron resonance heating on Tore Supra. Physics of Plasmas, 2002, 9, 2619-2632.	1.9	76
90	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