Anthony Leonard

List of Publications by Year
in descending order

125 papers	7,416 citations	76326 40 h-index	56724 83 g-index
125 all docs	125 docs citations	125 times ranked	2292 citing authors

#	Article	IF	Citations
1	Chapter 4: Power and particle control. Nuclear Fusion, 2007, 47, S203-S263.	3.5	891
2	Edge localized modes and the pedestal: A model based on coupled peelingâ€“ballooning modes. Physics of Plasmas, 2002, 9, 2037-2043.	1.9	640
3	Scaling of the tokamak near the scrape-off layer H-mode power width and implications for ITER. Nuclear Fusion, 2013, 53, 093031.	3.5	448
4	RMP ELM suppression in DIII-D plasmas with ITER similar shapes and collisionalities. Nuclear Fusion, 2008, 48, 024002.	3.5	348
5	A first-principles predictive model of the pedestal height and width: development, testing and ITER optimization with the EPED model. Nuclear Fusion, 2011, 51, 103016.	3.5	342
6	Development and validation of a predictive model for the pedestal height. Physics of Plasmas, 2009, 16, .	1.9	285
7	Edge-localized-modes in tokamaks. Physics of Plasmas, 2014, 21, .	1.9	240
8	ELMs and constraints on the H-mode pedestal: peelingâ€“ballooning stability calculation and comparison with experiment. Nuclear Fusion, 2004, 44, 320-328.	3.5	192
9	Pedestal stability comparison and ITER pedestal prediction. Nuclear Fusion, 2009, 49, 085035.	3.5	179
10	The EPED pedestal model and edge localized mode-suppressed regimes: Studies of quiescent H-mode and development of a model for edge localized mode suppression via resonant magnetic perturbations. Physics of Plasmas, 2012, 19, .	1.9	140
11	Overview of the results on divertor heat loads in RMP controlled H-mode plasmas on DIII-D. Nuclear Fusion, 2009, 49, 095013.	3.5	136
12	Far SOL transport and main wall plasma interaction in DIII-D. Nuclear Fusion, 2005, 45, 1589-1599.	3.5	123
13	Plasma detachment in divertor tokamaks. Plasma Physics and Controlled Fusion, 2018, 60, 044001.	2.1	121
14	The effect of plasma shape on H-mode pedestal characteristics on DIII-D. Plasma Physics and Controlled Fusion, 2000, 42, A175-A184.	2.1	114
15	Characterization of peelingâ€“ballooning stability limits on the pedestal. Plasma Physics and Controlled Fusion, 2004, 46, A131-A141.	2.1	109
16	Analysis of a multi-machine database on divertor heat fluxes. Physics of Plasmas, 2012, 19, .	1.9	109
17	Radiative divertor experiments in DIII-D with D2injection. Nuclear Fusion, 1997, 37, 321-338.	3.5	78
18		1.3	77

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19	H-mode pedestal characteristics, ELMs, and energy confinement in ITER shape discharges on DIII-D. Plasma Physics and Controlled Fusion, 1998, 40, 845-850.	2.1	77
20	Power deposition onto plasma facing components in poloidal divertor tokamaks during type-I ELMs and disruptions. Journal of Nuclear Materials, 2005, 337-339, 669-676.	2.7	76
21	Physics of pedestal density profile formation and its impact on H-mode density limit in burning plasmas. Physics of Plasmas, 2003, 10, 3984-3991.	1.9	69
22	Long pulse high performance discharges in the DIII-D tokamak. Nuclear Fusion, 2001, 41, 1585-1599.	3.5	68
23	Survey of target plate heat flux in diverted DIII-D tokamak discharges. Nuclear Fusion, 1998, 38, 1225-1249.	3.5	65
24	Distributed Divertor Radiation through Convection in DIII-D. Physical Review Letters, 1997, 78, 4769-4772.	7.8	63
25	Spectroscopic characterization of the DIII-D divertor. Physics of Plasmas, 1997, 4, 355-368.	1.9	61
26	The two-dimensional structure of radiative divertor plasmas in the DIII-D tokamak. Physics of Plasmas, 1997, 4, 1761-1773.	1.9	60
27	Transport of edge localized modes energy and particles into the scrape off layer and divertor of DIII-D. Physics of Plasmas, 2003, 10, 1765-1772.	1.9	58
28	Initial results of the high resolution edge Thomson scattering upgrade at DIII-D. Review of Scientific Instruments, 2012, 83, 10E343.	1.3	58
29	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>E</mml:mi><mml:mo>Ã—</mml:mo><mml:mi>B</mml:mi></mml:mrow></mml:math> Flux Driven Detachment Bifurcation in the DIII-D Tokamak. Physical Review Letters, 2018, 121, 075001.	7.8	57
30	Electron pressure balance in the SOL through the transition to detachment. Journal of Nuclear Materials, 2015, 463, 533-536.	2.7	56
31	ELM particle and energy transport in the SOL and divertor of DIII-D. Plasma Physics and Controlled Fusion, 2003, 45, 1597-1626.	2.1	55
32	High radiation and high density experiments in JT-60U. Nuclear Fusion, 2001, 41, 227-233.	3.5	54
33	Progress toward long-pulse high-performance Advanced Tokamak discharges on the DIII-D tokamak. Physics of Plasmas, 2001, 8, 2208-2216.	1.9	50
34	Integration of full divertor detachment with improved core confinement for tokamak fusion plasmas. Nature Communications, 2021, 12, 1365.	12.8	50
35	Physics of the detached radiative divertor regime in DIII-D. Plasma Physics and Controlled Fusion, 1999, 41, A345-A355.	2.1	49
36	First experimental tests of a new small angle slot divertor on DIII-D. Nuclear Fusion, 2019, 59, 086054.	3.5	49

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37	Structure, stability and ELM dynamics of the H-mode pedestal in DIII-D. Nuclear Fusion, 2005, 45, 1493-1502.	3.5	47
38	Obtaining reactor-relevant divertor conditions in tokamaks. Nuclear Fusion, 2011, 51, 063001.	3.5	47
39	Measurements of non-axisymmetric effects in the DIII-D divertor. Journal of Nuclear Materials, 1995, 220-222, 235-239.	2.7	43
40	Flow reversal, convection, and modeling in the DIII-D divertor. Physics of Plasmas, 1998, 5, 4305-4310.	1.9	40
41	Comparison of H-mode barrier width with a model of neutral penetration length. Nuclear Fusion, 2004, 44, 204-213.	3.5	39
42	Comparison of radiating divertor behaviour in single-null and double-null plasmas in DIII-D. Nuclear Fusion, 2008, 48, 045010.	3.5	39
43	Compatibility of the radiating divertor with high performance plasmas in DIII-D. Journal of Nuclear Materials, 2007, 363-365, 416-420.	2.7	38
44	Compatibility of separatrix density scaling for divertor detachment with H-mode pedestal operation in DIII-D. Nuclear Fusion, 2017, 57, 086033.	3.5	38
45	Controlling marginally detached divertor plasmas. Nuclear Fusion, 2017, 57, 066039.	3.5	37
46	Relationship between locked modes and thermal quenches in DIII-D. Nuclear Fusion, 2018, 58, 056022.	3.5	37
47	Identifying the location of the OMP separatrix in DIII-D using power accounting. Nuclear Fusion, 2015, 55, 093014.	3.5	35
48	Limits to the H-mode pedestal pressure gradient in DIII-D. Nuclear Fusion, 2010, 50, 064002.	3.5	34
49	Effect of changes in separatrix magnetic geometry on divertor behaviour in DIII-D. Nuclear Fusion, 2013, 53, 113024.	3.5	34
50	Development of a radiative divertor for DIII-D. Journal of Nuclear Materials, 1995, 220-222, 336-341.	2.7	32
51	Power balance in DIII-D during single-null ELMing H-mode plasmas. Journal of Nuclear Materials, 1995, 220-222, 325-329.	2.7	32
52	Spectroscopic analysis of normal and reversed ion flows in the DIII-D divertor. Physics of Plasmas, 1999, 6, 541-549.	1.9	31
53	Effects of impurity seeding in DIII-D radiating mantle discharges. Nuclear Fusion, 2002, 42, 28-41.	3.5	31
54	Edge-Localized-Modeâ€“Induced Transport of Impurity Density, Energy, and Momentum. Physical Review Letters, 2005, 94, 225001.	7.8	30

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55	Scaling radiative divertor solutions to high power in DIII-D. Nuclear Fusion, 2012, 52, 063015.	3.5	30
56	Heat flux management via advanced magnetic divertor configurations and divertor detachment. Journal of Nuclear Materials, 2015, 463, 1186-1190.	2.7	30
57	Radiative divertor and scrape-off layer experiments in open and baffled divertors on DIII-D. Nuclear Fusion, 1999, 39, 2015-2023.	3.5	29
58	Measurements of flows in the DIII-D divertor by Mach probes. Journal of Nuclear Materials, 1999, 266-269, 783-787.	2.7	29
59	Exposures of tungsten nanostructures to divertor plasmas in DIII-D. Physica Scripta, 2016, T167, 014055.	2.5	29
60	Investigation of the role of pedestal pressure and collisionality on type-I ELM divertor heat loads in DIII-D. Nuclear Fusion, 2018, 58, 096023.	3.5	29
61	Impact of drifts on divertor power exhaust in DIII-D. Nuclear Materials and Energy, 2019, 19, 230-238.	1.3	29
62	Separating divertor closure effects on divertor detachment and pedestal shape in DIII-D. Physics of Plasmas, 2020, 27, .	1.9	28
63	Studies of high-Î´ (baffled) and low-Î´ (open) pumped divertor operation on DIII-D. Journal of Nuclear Materials, 1999, 266-269, 168-174.	2.7	27
64	Neutral leakage, power dissipation and pedestal fueling in open vs closed divertors. Nuclear Fusion, 2020, 60, 076011.	3.5	27
65	Divertor detachment and asymmetry in H-mode operation with an ITER-like tungsten divertor in EAST. Nuclear Fusion, 2019, 59, 126046.	3.5	26
66	Impurity behaviour under puff-and-pump radiating divertor conditions. Nuclear Fusion, 2009, 49, 065013.	3.5	25
67	Assessment of the poloidal distribution of core plasma fueling and impurity sources in DIII-D. Journal of Nuclear Materials, 2005, 337-339, 425-430.	2.7	24
68	Dependence of neutral pressure on detachment in the small angle slot divertor at DIII-D. Nuclear Materials and Energy, 2019, 19, 487-492.	1.3	24
69	The effect of divertor closure on detachment onset in DIII-D. Nuclear Materials and Energy, 2019, 19, 67-71.	1.3	24
70	Investigation of electron parallel pressure balance in the scrapeoff layer of deuterium-based radiative divertor discharges in DIII-D. Journal of Nuclear Materials, 1997, 241-243, 639-644.	2.7	23
71	Radiative snowflake divertor studies in DIII-D. Journal of Nuclear Materials, 2015, 463, 1191-1195.	2.7	23
72	Advances in radiated power control at DIII-D. Nuclear Materials and Energy, 2019, 18, 285-290.	1.3	23

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73	Poloidal distribution of recycling sources and core plasma fueling in DIII-D, ASDEX-Upgrade and JET L-mode plasmas. Plasma Physics and Controlled Fusion, 2011, 53, 124017.	2.1	22
74	Experimental validation of a model for particle recycling and tungsten erosion during ELMs in the DIII-D divertor. Nuclear Materials and Energy, 2018, 17, 164-173.	1.3	22
75	Comprehensive 2D measurements of radiative divertor plasmas in DIII-D. Journal of Nuclear Materials, 1997, 241-243, 666-671.	2.7	21
76	First measurements of electron temperature and density with divertor Thomson scattering in radiative divertor discharges on DIII-D. Journal of Nuclear Materials, 1997, 241-243, 595-601.	2.7	21
77	Influence of cross-field drifts and chemical sputtering on simulations of divertor particle and heat loads in ohmic and L-mode plasmas in DIII-D, AUG, and JET using UEDGE. Journal of Nuclear Materials, 2011, 415, S530-S534.	2.7	21
78	Effects of low-Z and high-Z impurities on divertor detachment and plasma confinement. Nuclear Materials and Energy, 2017, 12, 942-947.	1.3	21
79	Overview of the recent DiMES and MiMES experiments in DIII-D. Physica Scripta, 2009, T138, 014007.	2.5	20
80	First Evidence of Local <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi mathvariant="bold">E</mml:mi><mml:mo>Ã—</mml:mo><mml:mi mathvariant="bold">B</mml:mi></mml:math> Drift in the Divertor Influencing the Structure and Stability of Confined Plasma near the Edge of Fusion Devices. Physical Review Letters, 2020, 124, 195002.	7.8	20
81	Impact of ELM control techniques on tungsten sputtering in the DIII-D divertor and extrapolations to ITER. Physics of Plasmas, 2019, 26, .	1.9	19
82	EDGE2D-EIRENE predictions of molecular emission in DIII-D high-recycling divertor plasmas. Nuclear Materials and Energy, 2019, 19, 211-217.	1.3	19
83	Application of the radiating divertor approach to innovative tokamak divertor concepts. Journal of Nuclear Materials, 2015, 463, 1225-1228.	2.7	18
84	Testing the role of molecular physics in dissipative divertor operations through helium plasmas at DIII-D. Physics of Plasmas, 2017, 24, .	1.9	18
85	DiMES PMI research at DIII-D in support of ITER and beyond. Fusion Engineering and Design, 2017, 124, 196-201.	1.9	18
86	Compatibility of detached divertor operation with robust edge pedestal performance. Journal of Nuclear Materials, 2015, 463, 519-523.	2.7	17
87	Effects of divertor geometry on H-mode pedestal structure in attached and detached plasmas in the DIII-D tokamak. Nuclear Fusion, 2018, 58, 096014.	3.5	17
88	Effects of divertor electrical drifts on particle distribution and detachment near the divertor target plate in DIII-D. Physics of Plasmas, 2021, 28, .	1.9	17
89	Numerical assessment of the new V-shape small-angle slot divertor on DIII-D. Nuclear Fusion, 2021, 61, 116042.	3.5	17
90	Initial performance results of the DIII-D Divertor 2000. Journal of Nuclear Materials, 2001, 290-293, 905-909.	2.7	16

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91	Impurity leakage and radiative cooling in the first nitrogen and neon seeding study in the closed DIII-D SAS configuration. Nuclear Fusion, 2022, 62, 026021.	3.5	16
92	Developing physics basis for the snowflake divertor in the DIII-D tokamak. Nuclear Fusion, 2018, 58, 036018.	3.5	15
93	Snowflake Divertor Experiments in the DIII-D, NSTX, and NSTX-U Tokamaks Aimed at the Development of the Divertor Power Exhaust Solution. IEEE Transactions on Plasma Science, 2016, 44, 3445-3455.	1.3	14
94	Scaling of divertor heat flux profile widths in DIII-D. Journal of Nuclear Materials, 2011, 415, S353-S356.	2.7	13
95	Role of poloidal Eâ€‰Ã—â€‰B drift in divertor heat transport in DIIIâ€D. Contributions To Plasma Physics, 2020, 60, e201900111.	1.1	13
96	Localized divertor leakage measurements using isotopic tungsten sources during edge-localized mode-y H-mode discharges on DIII-D. Nuclear Fusion, 2020, 60, 016028.	3.5	13
97	Particle flux and radial profiles in the SOL of DIII-D during ELMing H-mode. Journal of Nuclear Materials, 2007, 363-365, 1066-1070.	2.7	12
98	Setting the H-mode pedestal structure: variations of particle source location using gas puff and pellet fueling. Nuclear Fusion, 2020, 60, 046003.	3.5	12
99	Fueling with edge recycling to high-density in DIII-D. Journal of Nuclear Materials, 2013, 438, S246-S249.	2.7	11
100	Changes in divertor conditions in response to changing core density with RMPs. Nuclear Fusion, 2017, 57, 076038.	3.5	11
101	Initial development of the DIIIâ€“D snowflake divertor control. Nuclear Fusion, 2018, 58, 066007.	3.5	10
102	Progress in DIII-D towards validating divertor power exhaust predictions. Nuclear Fusion, 2020, 60, 056021.	3.5	10
103	Divertor Heat Flux Control Research on DIII-D. Fusion Science and Technology, 2005, 48, 1083-1095.	1.1	9
104	Indications of an inward pinch in the inner SOL of DIII-D from 13C deposition experiments. Journal of Nuclear Materials, 2009, 390-391, 376-379.	2.7	9
105	Effect of separatrix magnetic geometry on divertor behavior in DIII-D. Journal of Nuclear Materials, 2013, 438, S166-S169.	2.7	9
106	Control of high-Z PFC erosion by local gas injection in DIII-D. Journal of Nuclear Materials, 2015, 463, 605-610.	2.7	9
107	Observation of fully detached divertor integrated with improved core confinement for tokamak fusion plasmas. Physics of Plasmas, 2021, 28, .	1.9	9
108	Experiments and computational modeling focused on divertor and SOL optimization for advanced tokamak operation on DIII-D. Journal of Nuclear Materials, 2001, 290-293, 995-1001.	2.7	8

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109	Results from core-edge experiments in high Power, high performance plasmas on DIII-D. Nuclear Materials and Energy, 2017, 12, 1141-1145.	1.3	8
110	High performance double-null plasmas under radiating divertor and mantle scenarios on DIII-D. Nuclear Fusion, 2019, 59, 086053.	3.5	8
111	Pedestal fueling through interpretive analysis of measured main chamber and divertor target flux in DIII-D. Journal of Nuclear Materials, 2009, 390-391, 470-473.	2.7	7
112	Enhanced particle flux due to localized divertor MHD instability in DIII-D tokamak. Physics of Plasmas, 2020, 27, .	1.9	7
113	Enhancement of detachment control with simplified real-time modelling on the KSTAR tokamak. Plasma Physics and Controlled Fusion, 2022, 64, 075002.	2.1	7
114	High-performance double-null plasmas under radiating mantle scenarios on DIII-D. Nuclear Materials and Energy, 2019, 19, 267-272.	1.3	6
115	H-mode pedestal improvements with neon injection in DIII-D. Nuclear Fusion, 2020, 60, 056013.	3.5	6
116	Developing solid-surface plasma facing components for pilot plants and reactors with replenishable wall claddings and continuous surface conditioning. Part A: concepts and questions. Plasma Physics and Controlled Fusion, 2022, 64, 055018.	2.1	6
117	Modeling ExB drift transport in conceptual slot divertor configurations. Contributions To Plasma Physics, 2020, 60, e201900151.	1.1	5
118	Plasma flux expansion control on the DIII-D tokamak. Plasma Physics and Controlled Fusion, 2021, 63, 015006.	2.1	5
119	Scaling and profiles of heat flux during partial detachment in DIII-D. Journal of Nuclear Materials, 1999, 266-269, 577-580.	2.7	4
120	Performance of high triangularity plasmas as the volume of the secondary divertor is varied in DIII-D. Journal of Nuclear Materials, 2001, 290-293, 588-592.	2.7	4
121	Modeling of combined effects of divertor closure and advanced magnetic configuration on detachment in DIII-D by SOLPS. Nuclear Fusion, 2018, 58, 056026.	3.5	2
122	Summary of the 3rd IAEA technical meeting on divertor concepts. Nuclear Fusion, 2020, 60, 097001.	3.5	2
123		1.3	1
124	Detailed OEDGE modeling of core-pedestal fueling in DIII-D. Journal of Nuclear Materials, 2013, 438, S651-S654.	2.7	1
125	Developing solid-surface plasma facing components for pilot plants and reactors with replenishable wall claddings and continuous surface conditioning. Part B: required research in present tokamaks. Plasma Physics and Controlled Fusion, 2022, 64, 055003.	2.1	0