

Lionello Marrelli

List of Publications by Year in descending order

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168
papers

4,070
citations

126907

33
h-index

175258

52
g-index

169
all docs

169
docs citations

169
times ranked

1587
citing authors

#	ARTICLE	IF	CITATIONS
1	Ion heating and energy balance during magnetic reconnection events in the RFX-mod experiment. Nuclear Fusion, 2022, 62, 026030.	3.5	3
2	Double Poloidal Field System With Superconducting and Conventional Copper Coils for Induced High Loop Voltage: A New Concept and a Feasibility Study for an RFP FFHR. IEEE Transactions on Plasma Science, 2022, , 1-7.	1.3	0
3	The role of 3D fields on runaway electron mitigation in ASDEX Upgrade: a numerical test particle approach. Nuclear Fusion, 2021, 61, 066037.	3.5	5
4	Interaction of Tearing Modes With Passive Structures in a Tokamak. IEEE Transactions on Magnetics, 2021, 57, 1-4.	2.1	0
5	Error Fields™ Computation in the RFX-mod2 Reversed Field Pinch. IEEE Transactions on Magnetics, 2021, 57, 1-4.	2.1	0
6	The reversed field pinch. Nuclear Fusion, 2021, 61, 023001.	3.5	42
7	Turbulent filament properties in L and H-mode regime in the RFX-mod operating as a tokamak. Nuclear Fusion, 2020, 60, 126006.	3.5	10
8	Model Based Procedure for in Situ Error Compensation of Spatially Distributed Magnetic Sensors. , 2020, , .		0
9	Overview of physics studies on ASDEX Upgrade. Nuclear Fusion, 2019, 59, 112014.	3.5	38
10	A locked mode indicator for disruption prediction on JET and ASDEX upgrade. Fusion Engineering and Design, 2019, 138, 254-266.	1.9	8
11	Dependence on plasma shape and plasma fueling for small edge-localized mode regimes in TCV and ASDEX Upgrade. Nuclear Fusion, 2019, 59, 086020.	3.5	34
12	Upgrades of the RFX-mod reversed field pinch and expected scenario improvements. Nuclear Fusion, 2019, 59, 076027.	3.5	34
13	Evolution of nitrogen concentration and ammonia production in N ₂ -seeded H-mode discharges at ASDEX Upgrade. Nuclear Fusion, 2019, 59, 046010.	3.5	22
14	Real-time plasma state monitoring and supervisory control on TCV. Nuclear Fusion, 2019, 59, 026017.	3.5	13
15	Validation of the ICRF antenna coupling code RPLICASOL against TOPICA and experiments. Nuclear Fusion, 2019, 59, 046001.	3.5	31
16	Design of the new electromagnetic measurement system for RFX-mod upgrade. Fusion Engineering and Design, 2019, 146, 906-909.	1.9	11
17	ELM-induced cold pulse propagation in ASDEX Upgrade. Plasma Physics and Controlled Fusion, 2019, 61, 045003.	2.1	6
18	Optimization of RFX-mod2 gap configuration by estimating the magnetic error fields due to the passive structure currents. Fusion Engineering and Design, 2019, 146, 680-683.	1.9	3

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19	Three-dimensional simulations of plasma turbulence in the RFX-mod scrape-off layer and comparison with experimental measurements. <i>Physics of Plasmas</i> , 2018, 25, .	1.9	10
20	Runaway electron mitigation by 3D fields in the ASDEX-Upgrade experiment. <i>Plasma Physics and Controlled Fusion</i> , 2018, 60, 014036.	2.1	42
21	Design constraints on new vacuum components of RFX-mod2 upgrade using electrical modeling of reversed field pinch plasma. <i>Fusion Engineering and Design</i> , 2018, 136, 1209-1213.	1.9	13
22	Design concepts of machine upgrades for the RFX-mod experiment. <i>Fusion Engineering and Design</i> , 2017, 123, 59-62.	1.9	21
23	Role of a continuous MHD dynamo in the formation of 3D equilibria in fusion plasmas. <i>Nuclear Fusion</i> , 2017, 57, 076014.	3.5	25
24	Edge plasma properties with 3D magnetic perturbations in RFX-mod. <i>Nuclear Fusion</i> , 2017, 57, 076033.	3.5	7
25	Integration of the state observer RAPTOR in the real-time MARTe framework at RFX-mod. <i>Fusion Engineering and Design</i> , 2017, 123, 616-619.	1.9	6
26	3D electromagnetic analysis of the MHD control system in RFX-mod upgrade. <i>Fusion Engineering and Design</i> , 2017, 123, 612-615.	1.9	1
27	H-mode achievement and edge features in RFX-mod tokamak operation. <i>Nuclear Fusion</i> , 2017, 57, 116039.	3.5	10
28	Diagnostics, data acquisition and control of the divertor test tokamak experiment. <i>Fusion Engineering and Design</i> , 2017, 122, 365-374.	1.9	5
29	Overview of progress in European medium sized tokamaks towards an integrated plasma-edge/wall solution ^a . <i>Nuclear Fusion</i> , 2017, 57, 102014.	3.5	23
30	Runaway electron mitigation by applied magnetic perturbations in RFX-mod tokamak plasmas. <i>Nuclear Fusion</i> , 2017, 57, 016014.	3.5	11
31	Avoidance of tearing mode locking with electro-magnetic torque introduced by feedback-based mode rotation control in DIII-D and RFX-mod. <i>Nuclear Fusion</i> , 2017, 57, 016035.	3.5	21
32	Overview of the RFX-mod fusion science activity. <i>Nuclear Fusion</i> , 2017, 57, 102012.	3.5	27
33	Overview of ASDEX Upgrade results. <i>Nuclear Fusion</i> , 2017, 57, 102015.	3.5	53
34	Impact of ideal MHD stability limits on high-beta hybrid operation. <i>Plasma Physics and Controlled Fusion</i> , 2017, 59, 014027.	2.1	31
35	Impact of toroidal and poloidal mode spectra on the control of non-axisymmetric fields in tokamaks. <i>Physics of Plasmas</i> , 2017, 24, .	1.9	19
36	MHD limits and plasma response in high-beta hybrid operations in ASDEX Upgrade. <i>Nuclear Fusion</i> , 2017, 57, 116027.	3.5	7

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55	Overview of the RFX-mod fusion science programme. Nuclear Fusion, 2013, 53, 104018.	3.5	17
56	Wall conditioning and density control in the reversed field pinch RFX-mod. Nuclear Fusion, 2013, 53, 073001.	3.5	16
57	Advances in understanding RFX-mod helical plasmas. Nuclear Fusion, 2013, 53, 073048.	3.5	17
58	Heat transport in helical RFX-mod plasmas by electron temperature dynamics from soft-x-ray diagnostics. Plasma Physics and Controlled Fusion, 2013, 55, 105010.	2.1	10
59	Interaction between magnetic boundary and first wall recycling in the reversed field pinch. Plasma Physics and Controlled Fusion, 2013, 55, 124013.	2.1	10
60	Experimental investigation of electron temperature dynamics of helical states in the RFX-Mod reversed field pinch. Nuclear Fusion, 2013, 53, 053011.	3.5	29
61	Advanced feedback control of magnetohydrodynamic instabilities: comparison of compensation techniques for radial sensors. Plasma Physics and Controlled Fusion, 2012, 54, 124018.	2.1	12
62	Feedback control model of the $m=2, n=1$ resistive wall mode in a circular plasma. Plasma Physics and Controlled Fusion, 2012, 54, 094004.	2.1	21
63	Flow measurements and modelling in helical RFX-mod equilibria. Nuclear Fusion, 2011, 51, 123007.	3.5	11
64	Vanishing Magnetic Shear And Electron Transport Barriers In The RFX-Mod Reversed Field Pinch. Physical Review Letters, 2011, 106, 025001.	7.8	38
65	Influence of external 3D magnetic fields on helical equilibrium and plasma flow in RFX-mod. Plasma Physics and Controlled Fusion, 2011, 53, 084005.	2.1	24
66	Improved dynamic response of magnetic feedback in RFX-mod and DIII-D. Plasma Physics and Controlled Fusion, 2011, 53, 084004.	2.1	16
67	Internal and external electron transport barriers in the RFX-mod reversed field pinch. Nuclear Fusion, 2011, 51, 073038.	3.5	26
68	Magnetohydrodynamic properties of nominally axisymmetric systems with 3D helical core. Plasma Physics and Controlled Fusion, 2011, 53, 074008.	2.1	13
69	Magnetohydrodynamic equilibrium and the stability of tokamak and reversed-field pinch systems with 3D helical cores. Plasma Physics and Controlled Fusion, 2011, 53, 084001.	2.1	2
70	Overview of the RFX fusion science program. Nuclear Fusion, 2011, 51, 094023.	3.5	29
71	Dynamic decoupling and multi-mode magnetic feedback for error field correction in RFX-mod. Nuclear Fusion, 2011, 51, 063012.	3.5	13
72	Three-dimensional equilibria and transport in RFX-mod: A description using stellarator tools. Physics of Plasmas, 2011, 18, .	1.9	19

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73	Self-Organized Helical Equilibria in the RFX-Mod Reversed Field Pinch. Contributions To Plasma Physics, 2010, 50, 775-779.	1.1	4
74	Requirements for active resistive wall mode (RWM) feedback control. Plasma Physics and Controlled Fusion, 2010, 52, 104004.	2.1	12
75	On the roles of direct feedback and error field correction in stabilizing resistive-wall modes. Nuclear Fusion, 2010, 50, 042001.	3.5	12
76	Neoclassical Transport in the Helical Reversed-Field Pinch. Physical Review Letters, 2010, 105, 195006.	7.8	20
77	Model-based design of multi-mode feedback control in the RFX-mod experiment. Nuclear Fusion, 2010, 50, 115011.	3.5	14
78	A 3D approach to equilibrium, stability and transport studies in RFX-mod improved regimes. Plasma Physics and Controlled Fusion, 2010, 52, 124023.	2.1	35
79	Improvement of the magnetic configuration in the reversed field pinch through successive bifurcations. Physics of Plasmas, 2009, 16, .	1.9	15
80	High density limit in reversed field pinches. Physics of Plasmas, 2009, 16, .	1.9	32
81	Helical equilibria and magnetic structures in the reversed field pinch and analogies to the tokamak and stellarator. Plasma Physics and Controlled Fusion, 2009, 51, 124031.	2.1	43
82	High density physics in reversed field pinches: comparison with tokamaks and stellarators. Nuclear Fusion, 2009, 49, 045012.	3.5	34
83	Comprehensive control of resistive wall modes in DIII-D advanced tokamak plasmas. Nuclear Fusion, 2009, 49, 125003.	3.5	58
84	Numerical studies of transport mechanisms in RFX-mod low magnetic chaos regimes. Plasma Physics and Controlled Fusion, 2009, 51, 065010.	2.1	24
85	Numerical simulations of fast ion loss measurements induced by magnetic islands in the ASDEX Upgrade tokamak. Nuclear Fusion, 2009, 49, 095021.	3.5	21
86	Nonlocal transport in the reversed field pinch. Plasma Physics and Controlled Fusion, 2009, 51, 124026.	2.1	32
87	On the statistics of edge fluctuations: comparative study between various fusion devices. Plasma Physics and Controlled Fusion, 2009, 51, 055013.	2.1	24
88	2D characterization of core thermal topology changes in controlled RFX-mod QSH states. Nuclear Fusion, 2009, 49, 045011.	3.5	23
89	Improved confinement with internal electron transport barriers in RFX-mod. Nuclear Fusion, 2009, 49, 055009.	3.5	22
90	MHD induced fast-ion losses on ASDEX Upgrade. Nuclear Fusion, 2009, 49, 085014.	3.5	43

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91	Magnetic order and confinement improvement in high-current regimes of RFX-mod with MHD feedback control. Nuclear Fusion, 2009, 49, 085036.	3.5	69
92	Self-organized helical equilibria as a new paradigm for ohmically heated fusion plasmas. Nature Physics, 2009, 5, 570-574.	16.7	240
93	Integrated identification of RFX-mod active control system from experimental data and finite element model. Fusion Engineering and Design, 2009, 84, 1784-1788.	1.9	9
94	Advanced MHD mode active control at RFX-mod. Fusion Engineering and Design, 2009, 84, 1249-1252.	1.9	5
95	Overview of RFX-mod results. Nuclear Fusion, 2009, 49, 104019.	3.5	43
96	Design of a new controller of MHD modes in RFX-mod. Fusion Engineering and Design, 2008, 83, 224-227.	1.9	11
97	High current regimes in RFX-mod. Plasma Physics and Controlled Fusion, 2008, 50, 124031.	2.1	44
98	MHD instabilities in magneto-plasma-dynamic thrusters. Plasma Physics and Controlled Fusion, 2008, 50, 124010.	2.1	9
99	Resonance between passing fast ions and MHD instabilities both in the tokamak and the RFP configurations. Nuclear Fusion, 2008, 48, 075002.	3.5	21
100	Filamentary current structures in the Madison Symmetric Torus. Nuclear Fusion, 2008, 48, 095003.	3.5	6
101	TAE internal structure through high-resolution soft x-ray measurements in ASDEX-Upgrade. Nuclear Fusion, 2008, 48, 065001.	3.5	11
102	Active MHD control at high currents in RFX-mod. Nuclear Fusion, 2007, 47, 783-791.	3.5	39
103	Beyond the intelligent shell concept: the clean-mode-control. Nuclear Fusion, 2007, 47, 1425-1436.	3.5	94
104	Magnetic self organization, MHD active control and confinement in RFX-mod. Plasma Physics and Controlled Fusion, 2007, 49, B359-B369.	2.1	60
105	A new paradigm for RFP magnetic self-organization: results and challenges. Plasma Physics and Controlled Fusion, 2007, 49, A177-A193.	2.1	45
106	NTM induced fast ion losses in ASDEX Upgrade. Nuclear Fusion, 2007, 47, L10-L15.	3.5	72
107	Recent improvements in confinement and beta in the MST reversed-field pinch. Nuclear Fusion, 2007, 47, L17-L20.	3.5	8
108	Ion and electron local transport inside single helicity islands in the reversed field pinch. Physics of Plasmas, 2007, 14, 072305.	1.9	14

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109	Feedback control of resistive wall modes by saddle coils in RFX-mod. Fusion Engineering and Design, 2007, 82, 1064-1072.	1.9	25
110	Two-dimensional time resolved measurements of the electron temperature in MST. Review of Scientific Instruments, 2006, 77, 10F318.	1.3	15
111	Active-Feedback Control of the Magnetic Boundary for Magnetohydrodynamic Stabilization of a Fusion Plasma. Physical Review Letters, 2006, 97, 075001.	7.8	96
112	Tomographic imaging of resistive mode dynamics in the Madison Symmetric Torus reversed-field pinch. Physics of Plasmas, 2006, 13, 012510.	1.9	30
113	Transport Barrier inside the Reversal Surface in the Chaotic Regime of the Reversed-Field Pinch. Physical Review Letters, 2006, 96, 025001.	7.8	60
114	Experimental and theoretical studies of active control of resistive wall mode growth in the EXTRAP T2R reversed-field pinch. Nuclear Fusion, 2005, 45, 557-564.	3.5	52
115	Active control of multiple resistive wall modes. Plasma Physics and Controlled Fusion, 2005, 47, B25-B36.	2.1	29
116	Perturbative transport studies in the reversed-field pinch. Nuclear Fusion, 2005, 45, 1342-1349.	3.5	5
117	Ultraviolet tomography of kink dynamics in a magnetoplasmadynamic thruster. Physics of Plasmas, 2005, 12, 093301.	1.9	8
118	Soft X-ray pulses in the reversed-field pinch. IEEE Transactions on Plasma Science, 2005, 33, 462-463.	1.3	2
119	Dynamo-free plasma in the reversed-field pinch: Advances in understanding the reversed-field pinch improved confinement mode. Physics of Plasmas, 2005, 12, 056118.	1.9	20
120	Trapped particles in the RFP single helicity States. IEEE Transactions on Plasma Science, 2005, 33, 460-461.	1.3	0
121	Overview of results in the MST reversed field pinch experiment. Nuclear Fusion, 2005, 45, S276-S282.	3.5	14
122	Reduced intermittency in the magnetic turbulence of reversed field pinch plasmas. Physics of Plasmas, 2005, 12, 030701.	1.9	14
123	Imaging of a double helical structure in the reversed field pinch. IEEE Transactions on Plasma Science, 2005, 33, 458-459.	1.3	2
124	Measurements of the MHD Dynamo in the Quasi-Single-Helicity Reversed-Field Pinch. Physical Review Letters, 2004, 93, 235001.	7.8	29
125	Feedback Stabilization of Multiple Resistive Wall Modes. Physical Review Letters, 2004, 93, 225001.	7.8	93
126	Observations of Multiple Magnetic Islands in the Core of a Reversed Field Pinch. Physical Review Letters, 2004, 92, 125001.	7.8	30

#	ARTICLE	IF	CITATIONS
127	Analysis of the calibration methods and error propagation for the sensitivity and the cooling time constant τ_c of the gold metal foil bolometers. Review of Scientific Instruments, 2004, 75, 2692-2699.	1.3	6
128	Particle-Transport Analysis in Reversed Field Pinch Helical States. Physical Review Letters, 2004, 93, 145001.	7.8	38
129	Ultraviolet imaging of a magneto-plasmadynamic thruster. Review of Scientific Instruments, 2004, 75, 4149-4151.	1.3	9
130	High resolution soft x-ray tomography in the Madison Symmetric Torus. Review of Scientific Instruments, 2004, 75, 4013-4016.	1.3	15
131	Soft-x-ray emission, plasma equilibrium, and fluctuation studies on Madison Symmetric Torus. Review of Scientific Instruments, 2003, 74, 2157-2160.	1.3	5
132	A statistical analysis of pulsed poloidal current drive in the Reversed Field eXperiment. Physics of Plasmas, 2003, 10, 705-712.	1.9	6
133	Compact soft x-ray multichord camera: Design and initial operation. Review of Scientific Instruments, 2003, 74, 2152-2156.	1.3	15
134	Overview of quasi-single helicity experiments in reversed field pinches. Nuclear Fusion, 2003, 43, 1855-1862.	3.5	102
135	Analysis and modelling of the magnetic and plasma profiles during PPCD experiments in RFX. Nuclear Fusion, 2003, 43, 1057-1065.	3.5	25
136	Quasi-single helicity spectra in the Madison Symmetric Torus. Physics of Plasmas, 2002, 9, 2868-2871.	1.9	51
137	High confinement plasmas in the Madison Symmetric Torus reversed-field pinch. Physics of Plasmas, 2002, 9, 2061-2068.	1.9	87
138	New insights into MHD dynamics of magnetically confined plasmas from experiments in RFX. Nuclear Fusion, 2002, 42, 247-257.	3.5	16
139	Experimental investigation of plasma topological properties in the Reversed Field Pinch. Europhysics Letters, 2002, 59, 48-54.	2.0	6
140	Imaging of helical coherent structures in the reversed field pinch. IEEE Transactions on Plasma Science, 2002, 30, 50-51.	1.3	0
141	Mitigation of plasma-wall interaction during quasi-single helicity states in RFX. Journal of Nuclear Materials, 2001, 290-293, 1018-1022.	2.7	4
142	Soft X ray tomographic imaging in the RFX reversed field pinch. Nuclear Fusion, 2001, 41, 695-709.	3.5	64
143	The safety factor profile in the RFP plasma core from soft x-ray tomography. Plasma Physics and Controlled Fusion, 2001, 43, L17-L22.	2.1	8
144	Transport mechanisms and enhanced confinement studies in RFX. Nuclear Fusion, 2001, 41, 431-436.	3.5	6

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145	Quasistationary Magnetic Fluctuation Control in the Reversed Field Pinch: A Proof of Principle Experiment. <i>Physical Review Letters</i> , 2001, 87, 195001.	7.8	29
146	Singular spectrum analysis as a tool for plasma fluctuations analysis. <i>Review of Scientific Instruments</i> , 2001, 72, 499-502.	1.3	16
147	Electron temperature diagnostics in the RFX reversed field pinch experiment. <i>Plasma Physics and Controlled Fusion</i> , 2000, 42, 881-892.	2.1	10
148	Study of the scaling of magnetic fluctuations in the RFX reversed field pinch1. <i>Plasma Physics and Controlled Fusion</i> , 2000, 42, 843-854.	2.1	35
149	Quasi-Single-Helicity Reversed-Field-Pinch Plasmas. <i>Physical Review Letters</i> , 2000, 85, 1662-1665.	7.8	149
150	Radiation and confinement properties of impurity seeded discharges in the reversed field pinch RFX. <i>Nuclear Fusion</i> , 2000, 40, 1983-1991.	3.5	9
151	Quasi-single helicity states in the reversed field pinch: Beyond the standard paradigm. <i>Physics of Plasmas</i> , 2000, 7, 1984-1992.	1.9	59
152	Recent progress in reversed field pinch research in the RFX experiment. <i>Nuclear Fusion</i> , 1999, 39, 1697-1705.	3.5	21
153	Improved confinement and transport studies in the reversed field experiment (RFX). <i>Physics of Plasmas</i> , 1999, 6, 1830-1836.	1.9	36
154	Scaling of Local Core Transport with Lundquist Number in the Reversed Field Pinch. <i>Physical Review Letters</i> , 1999, 83, 5499-5502.	7.8	27
155	Improved performance of the Thomson scattering system in RFX. <i>Review of Scientific Instruments</i> , 1999, 70, 1416-1420.	1.3	17
156	Core Transport Improvement during Poloidal Current Drive in the RFX Reversed Field Pinch. <i>Physical Review Letters</i> , 1999, 82, 1462-1465.	7.8	79
157	Edge localised asymmetric radiative phenomena in RFX. <i>Journal of Nuclear Materials</i> , 1999, 266-269, 877-883.	2.7	18
158	An optimized multifoil soft x-ray spectrometer for the determination of the electron temperature with high time resolution. <i>Review of Scientific Instruments</i> , 1999, 70, 581-585.	1.3	31
159	Error analysis for thermonuclear plasma bolometric measurements performed with widely used miniaturized metal resistor detectors. <i>Measurement Science and Technology</i> , 1998, 9, 579-584.	2.6	5
160	Total radiation losses and emissivity profiles in RFX. <i>Nuclear Fusion</i> , 1998, 38, 649-659.	3.5	20
161	Bolometric and SXR Tomography in RFX. , 1998, , 597-600.		1
162	Soft x-ray and bolometric tomography in RFX. <i>Review of Scientific Instruments</i> , 1997, 68, 1256-1260.	1.3	21

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163	Signal processing and general purpose data acquisition system for on-line tomographic measurements. Review of Scientific Instruments, 1997, 68, 951-954.	1.3	5
164	Boronization with trimethylboron in the reversed field pinch RFX. Journal of Nuclear Materials, 1996, 227, 259-265.	2.7	31
165	Electron temperature measurements with high time resolution in RFX. Plasma Physics and Controlled Fusion, 1996, 38, 1023-1031.	2.1	23
166	Multichord calibrated bolometer array for the RFX experiment. Review of Scientific Instruments, 1995, 66, 665-667.	1.3	11
167	Development and tests of a simple multifoil spectrometer for highly time-resolved line intensity measurements in the RFX experiment. Measurement Science and Technology, 1995, 6, 1690-1698.	2.6	6
168	Dynamics of Ultralow-q plasmas in the RFX-mod device. Nuclear Fusion, 0, , .	3.5	3