

# Massimiliano RomÃ©

## List of Publications by Year in descending order

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121  
papers

1,503  
citations

471509

17  
h-index

361022

35  
g-index

125  
all docs

125  
docs citations

125  
times ranked

1244  
citing authors

#	ARTICLE	IF	CITATIONS
1	Overview of first Wendelstein 7-X high-performance operation. Nuclear Fusion, 2019, 59, 112004.	3.5	165
2	Major results from the first plasma campaign of the Wendelstein 7-X stellarator. Nuclear Fusion, 2017, 57, 102020.	3.5	128
3	Magnetic configuration effects on the Wendelstein 7-X stellarator. Nature Physics, 2018, 14, 855-860.	16.7	110
4	The neoclassical "Electron Root" feature in the Wendelstein-7-AS stellarator. Physics of Plasmas, 2000, 7, 295-311.	1.9	106
5	Technical challenges in the construction of the steady-state stellarator Wendelstein 7-X. Nuclear Fusion, 2013, 53, 126001.	3.5	77
6	5-D simulation study of suprathreshold electron transport in non-axisymmetric plasmas. Nuclear Fusion, 2000, 40, 693-700.	3.5	63
7	Kinetic modelling of the ECRH power deposition in W7-AS. Plasma Physics and Controlled Fusion, 1997, 39, 117-158.	2.1	58
8	The SPARC project: a high-brightness electron beam source at LNF to drive a SASE-FEL experiment. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2003, 507, 345-349.	1.6	50
9	Electron cyclotron resonance heating and current drive in the W7-X stellarator. Plasma Physics and Controlled Fusion, 1998, 40, 511-530.	2.1	41
10	Cylindrical Penning trap for the study of electron plasmas. Review of Scientific Instruments, 2003, 74, 3991-3997.	1.3	33
11	MariX, an advanced MHz-class repetition rate X-ray source for linear regime time-resolved spectroscopy and photon scattering. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2019, 930, 167-172.	1.6	29
12	Electron cyclotron current drive in the Wendelstein 7-AS stellarator. Plasma Physics and Controlled Fusion, 2005, 47, 1137-1163.	2.1	26
13	Status of the SPARC project. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2004, 528, 586-590.	1.6	24
14	Experimental investigation of the ion resonance instability in a trapped electron plasma. Plasma Physics and Controlled Fusion, 2005, 47, 1697-1708.	2.1	24
15	Asymmetric vortex merger: Experiments and simulations. Physics of Plasmas, 2001, 8, 3865-3868.	1.9	23
16	Plasma-beam traps and radiofrequency quadrupole beam coolers. Review of Scientific Instruments, 2014, 85, 02B909.	1.3	23
17	20 years of ECRH at W7-A and W7-AS. Nuclear Fusion, 2003, 43, 1313-1323.	3.5	20
18	Experimental and numerical analysis of the electron injection in a Malmberg-Penning trap. Physics of Plasmas, 2007, 14, 042104.	1.9	19

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19	Intense proton acceleration in ultrarelativistic interaction with nanochannels. <i>Physical Review Research</i> , 2020, 2, .	3.6	18
20	Bounce-averaged Fokker-Planck code for the description of ECRH in a periodic magnetic field. <i>Computer Physics Communications</i> , 1997, 103, 145-156.	7.5	16
21	Laser-driven proton acceleration via excitation of surface plasmon polaritons into TiO <sub>2</sub> nanotube array targets. <i>Plasma Physics and Controlled Fusion</i> , 2020, 62, 114001.	2.1	15
22	Diocotron modulation in an electron plasma through continuous radio-frequency excitation. <i>Physics of Plasmas</i> , 2014, 21, 122102.	1.9	14
23	Towards a new image processing system at Wendelstein 7-X: From spatial calibration to characterization of thermal events. <i>Review of Scientific Instruments</i> , 2018, 89, 123503.	1.3	14
24	The $\sqrt{e}$ feature in the WENDELSTEIN-7-AS stellarator with ECRH in O1-mode compared to X2-mode. <i>Plasma Physics and Controlled Fusion</i> , 2006, 48, 353-368.	2.1	13
25	Broadband radio frequency plasma generation in a Penning-Malmberg trap. <i>Plasma Sources Science and Technology</i> , 2010, 19, 045013.	3.1	13
26	Motion of extended vortices in an inhomogeneous pure electron plasma. <i>Physics of Plasmas</i> , 2000, 7, 2856-2865.	1.9	12
27	Turbulence and coherent structures in non-neutral plasmas. <i>European Physical Journal Plus</i> , 2011, 126, 1.	2.6	12
28	Low-power radio-frequency excitation as a plasma source in a Penning-Malmberg trap: a systematic study. <i>Journal of Plasma Physics</i> , 2015, 81, .	2.1	12
29	Transport analysis through heat waves driven at different radial positions. <i>Plasma Physics and Controlled Fusion</i> , 1998, 40, 233-244.	2.1	11
30	Excitation of the $l=2$ azimuthal mode in a pure electron plasma. <i>Physics of Plasmas</i> , 2007, 14, 102103.	1.9	11
31	Excitation of the $l=2$ diocotron mode with a resistive load. <i>Physics of Plasmas</i> , 2008, 15, 032102.	1.9	11
32	Adiabatic nonlinear interaction of a localized electron cyclotron wave with a plasma. <i>Physics of Fluids B</i> , 1991, 3, 3065-3073.	1.7	10
33	Experimental investigation of coherent structures in a low-energy electron beam. <i>Applied Physics Letters</i> , 2004, 84, 3807-3809.	3.3	10
34	MEP: A 3D PIC code for the simulation of the dynamics of a non-neutral plasma. <i>Journal of Computational Physics</i> , 2005, 209, 406-420.	3.8	10
35	Scaling properties and intermittency of two-dimensional turbulence in pure electron plasmas. <i>Physical Review E</i> , 2013, 87, 063110.	2.1	10
36	Thermodynamic equilibrium of hollow non-neutral plasmas. <i>Physics of Plasmas</i> , 2000, 7, 4396-4402.	1.9	9

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37	$l=1$ diocotron instability of single charged plasmas. Plasma Physics Reports, 2002, 28, 141-157.	0.9	9
38	Detection of low energy antimatter with emulsions. Journal of Instrumentation, 2016, 11, P06017-P06017.	1.2	9
39	Radial electric field measurement in a tokamak by the injection of a pulsed neutral beam. Plasma Physics and Controlled Fusion, 1994, 36, 1805-1817.	2.1	8
40	The SPARC/X SASE-FEL Projects. Laser and Particle Beams, 2004, 22, 341-350.	1.0	8
41	The Project Plasmonx for Plasma Acceleration Experiments and A Thomson X-Ray Source at SPARC. , 0, , .		8
42	Active control of the ion resonance instability by ion removing fields. Physics of Plasmas, 2006, 13, 112102.	1.9	8
43	On the relativistic cold fluid radial equilibrium of a nonneutral plasma. Physics Letters, Section A: General, Atomic and Solid State Physics, 2008, 372, 1445-1450.	2.1	8
44	Excitation of the $l=3$ diocotron mode in a pure electron plasma by means of a rotating electric field. Journal of Applied Physics, 2009, 105, 053303.	2.5	8
45	Multiresolution analysis of the two-dimensional free decaying turbulence in a pure electron plasma. New Journal of Physics, 2009, 11, 053006.	2.9	8
46	Stabilizing effect of a nonresonant radio frequency drive on the $m=1$ diocotron instability. Physics of Plasmas, 2011, 18, .	1.9	8
47	Numerical study of a dust-contaminated electron plasma. European Physical Journal D, 2014, 68, 1.	1.3	8
48	Axial heating and temperature of RF-excited non-neutral plasmas in Penning-Malmberg traps. Journal of Instrumentation, 2016, 11, C09007-C09007.	1.2	8
49	Light Ion Accelerating Line (L3IA): Test experiment at ILIL-PW. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2018, 909, 160-163.	1.6	8
50	High harmonic electron cyclotron resonance heating in the Large Helical Device. Nuclear Fusion, 1998, 38, 223-235.	3.5	7
51	Electrostatic diagnostics of nanosecond pulsed electron beams in a Malmbergâ€™Penning trap. Review of Scientific Instruments, 2010, 81, 063503.	1.3	7
52	Effect of initial conditions on electronâ€™plasma turbulence: a multiresolution analysis. Journal of Plasma Physics, 2015, 81, .	2.1	7
53	Effects of dust contamination on the transverse dynamics of a magnetized electron plasma. AIP Conference Proceedings, 2015, , .	0.4	7
54	Beam and installation improvements of the NIO1 ion source. Review of Scientific Instruments, 2020, 91, 013316.	1.3	7

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55	Characterization of a pulsed electron beam with a planar charge collector. <i>Journal Physics D: Applied Physics</i> , 2009, 42, 175203.	2.8	6
56	Forward modeling of collective Thomson scattering for Wendelstein 7-X plasmas: Electrostatic approximation. <i>Review of Scientific Instruments</i> , 2019, 90, 023501.	1.3	6
57	Quasilinear stochastic electron energy diffusion driven by an intense cyclotron wave in oblique propagation. <i>Physics of Plasmas</i> , 1994, 1, 1871-1876.	1.9	5
58	The Sparc project: a high brightness electron beam source at LNF to drive a SASE-FEL experiment. , 0, , .		5
59	Non-neutral plasma equilibria with weak axisymmetric magnetic perturbations. <i>Physics of Plasmas</i> , 2006, 13, 092108.	1.9	5
60	Experimental and numerical investigation of non-neutral complex plasmas. <i>AIP Conference Proceedings</i> , 2013, , .	0.4	5
61	Structures and turbulent relaxation in non-neutral plasmas. <i>Plasma Physics and Controlled Fusion</i> , 2017, 59, 014036.	2.1	5
62	The QUIPLAS experimental apparatus for antimatter interferometry. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2020, 951, 163019.	1.6	5
63	Coexistence of Plasmoid and Kelvinâ€™Helmholtz Instabilities in Collisionless Plasma Turbulence. <i>Astrophysical Journal</i> , 2022, 929, 62.	4.5	5
64	Thermodynamic equilibrium of pure electron plasmas in a Malmberg-Penning trap. <i>Plasma Physics Reports</i> , 2000, 26, 960-964.	0.9	4
65	Diocotron instability in non-neutral plasmas with a stationary point in the rotation frequency profile. <i>Physics of Plasmas</i> , 2005, 12, 092105.	1.9	4
66	Low-noise techniques for electrostatic diagnostics on a pure electron plasma. <i>Measurement Science and Technology</i> , 2008, 19, 085703.	2.6	4
67	Wavelet characterization of 2D turbulence and intermittency in magnetized electron plasmas. <i>Plasma Sources Science and Technology</i> , 2016, 25, 035016.	3.1	4
68	Spectral analysis of forced turbulence in a non-neutral plasma. <i>Journal of Plasma Physics</i> , 2017, 83, .	2.1	4
69	Sensitivity of emulsion detectors to low energy positrons. <i>Journal of Instrumentation</i> , 2020, 15, P03027-P03027.	1.2	4
70	Real-time monitoring of a positron beam using a microchannel plate in single-particle mode. <i>Journal of Instrumentation</i> , 2020, 15, P11030-P11030.	1.2	4
71	Comparison of high-field-side and low-field-side launch ECCD in the W7-AS stellarator. <i>Plasma Physics and Controlled Fusion</i> , 2003, 45, 783-792.	2.1	3
72	Equilibrium of non-neutral plasmas in a Malmbergâ€™Penning trap with a weakly tilted magnetic field. <i>Physics of Plasmas</i> , 2008, 15, .	1.9	3

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73	Electron cyclotron resonance near the axis of a quadrupole linear trap. <i>Physics of Plasmas</i> , 2012, 19, 122509.	1.9	3
74	Photon neutralizer as an example of an open billiard. <i>Physical Review E</i> , 2013, 87, 013111.	2.1	3
75	Limited stochastic electron acceleration induced by an intense cyclotron wave in a plasma. <i>Physical Review E</i> , 1993, 47, R2995-R2998.	2.1	2
76	A new 3D PIC Code for the Simulation of the Dynamics of a Non-Neutral Plasma. <i>AIP Conference Proceedings</i> , 2003, , .	0.4	2
77	Equilibrium of Charged Plasmas with Weak Axisymmetric Magnetic Perturbations. <i>Fusion Science and Technology</i> , 2007, 51, 238-240.	1.1	2
78	Relativistic cold fluid radial equilibrium of an annular nonneutral plasma. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2008, 372, 2450-2458.	2.1	2
79	Admissible Equilibria of Non-neutral Plasmas in a Malmberg-Penning Trap. <i>Physical Review Letters</i> , 2008, 101, 085006.	7.8	2
80	Relativistic Effects on the Equilibrium of Electron Plasmas. <i>Fusion Science and Technology</i> , 2009, 55, 140-143.	1.1	2
81	Trapped electron plasma formation and equilibrium with a low-power radio-frequency drive. <i>AIP Conference Proceedings</i> , 2015, , .	0.4	2
82	Development and installation of a radio frequency quadrupole cooler test. <i>Review of Scientific Instruments</i> , 2019, 90, 113324.	1.3	2
83	Shear modification by ECCD and related confinement phenomena in W7-AS. <i>AIP Conference Proceedings</i> , 1996, , .	0.4	1
84	A 2D Vlasov code for the electron dynamics in a Penning-Malmberg trap. , 1999, , .		1
85	Experimental and numerical study of asymmetric vortex merger in a pure electron plasma. <i>AIP Conference Proceedings</i> , 2002, , .	0.4	1
86	Diocotron Instability in ELTRAP. <i>AIP Conference Proceedings</i> , 2003, , .	0.4	1
87	Status of the SPARC Project. , 0, , .		1
88	Ionization adiabat. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2007, 366, 471-473.	2.1	1
89	Transport induced by symmetry breaking in a nonneutral plasma. <i>AIP Conference Proceedings</i> , 2010, , .	0.4	1
90	Radio Frequency Generation of an Electron Plasma in a Malmberg-Penning Trap. , 2010, , .		1

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91	Longitudinal Space Charge Effects in Bunched Electron Beams Travelling through a Malmberg-Penning Trap. , 2010, , .		1
92	Thomson backscattering diagnostic set-up for the study of nanosecond electron bunches in high space-charge regime. Journal of Instrumentation, 2012, 7, P01008-P01008.	1.2	1
93	Analysis of the two-dimensional turbulence in pure electron plasmas by means of advanced statistical techniques. , 2013, , .		1
94	Development of diagnostic and manipulation systems for space-charge dominated electron beams and confined electron plasmas in ELTRAP. AIP Conference Proceedings, 2013, , .	0.4	1
95	A Hamiltonian fluid-kinetic model for a two-species non-neutral plasma. Physics of Plasmas, 2014, 21, 044504.	1.9	1
96	Integration of RFQ beam coolers and solenoidal magnetic fields. Review of Scientific Instruments, 2016, 87, 02B504.	1.3	1
97	RF-generated trapped plasmas: Partial neutralization, vortex formation and active control. AIP Conference Proceedings, 2018, , .	0.4	1
98	An Interferometric Method for Particle Mass Measurements. Symmetry, 2021, 13, 1232.	2.2	1
99	INVESTIGATION OF FREE DECAYING TURBULENCE IN A TRAPPED PURE ELECTRON PLASMA. , 2007, , .		1
100	Dynamics of coherent structures in a Penning-Malmberg trap with 2D Vlasov simulations. , 1999, , .		0
101	$l=1$ diocotron instability of single charged plasmas in a cylindrical Penning trap with central conductor. AIP Conference Proceedings, 2002, , .	0.4	0
102	Status of the Eltrap project. AIP Conference Proceedings, 2002, , .	0.4	0
103	Coherent Structures in low Energy Electron Beams in ELTRAP. AIP Conference Proceedings, 2003, , .	0.4	0
104	Coherent structures in the ELTRAP experiment. AIP Conference Proceedings, 2004, , .	0.4	0
105	<title>SPARC/X Projects</title>. , 2005, , .		0
106	Equilibrium of non-neutral plasmas with weak axisymmetric magnetic perturbations. AIP Conference Proceedings, 2006, , .	0.4	0
107	Compressional diocotron instability in a non-neutral plasma with a stationary point in the rotation frequency profile. AIP Conference Proceedings, 2006, , .	0.4	0
108	Analysis of the electron injection in a Malmberg-Penning trap. AIP Conference Proceedings, 2006, , .	0.4	0

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109	Active control of the ion-resonance instability in a trapped pure electron plasma. AIP Conference Proceedings, 2006, , .	0.4	0
110	<title>Status of the <emph type="1">SPARX</emph> FEL project</title>. , 2007, , .		0
111	Fast electrostatic diagnostic of an electron beam in a Penning-Malmberg trap. , 2009, , .		0
112	Excitation of high order diocotron modes in the ELTRAP device. , 2009, , .		0
113	Effect of a Weakly Tilted Magnetic Field on the Equilibrium of Nonneutral Plasmas in a Malmberg-Penning Trap. , 2009, , .		0
114	Equilibrium of Nonneutral Plasmas in a Malmberg-Penning Trap with a Tilted Magnetic Field. Fusion Science and Technology, 2009, 55, 205-208.	1.1	0
115	Non-Resonant Dynamic Stabilization of the m=1 Diocotron Mode. , 2010, , .		0
116	Proper Orthogonal Decomposition of two-dimensional turbulence in a pure electron plasma. , 2010, , .		0
117	Relativistic thermal equilibrium of non-neutral plasmas. Physics Letters, Section A: General, Atomic and Solid State Physics, 2010, 374, 4864-4871.	2.1	0
118	Extraction of many H <sup>+</sup> beamlets from ion source NIO1. AIP Conference Proceedings, 2018, , .	0.4	0
119	Coherent structures and turbulence evolution in magnetized non-neutral plasmas. AIP Conference Proceedings, 2018, , .	0.4	0
120	Generation and Active Control of Coherent Structures in Partially-Neutralized Magnetized Plasmas. , 2018, , 169-179.		0
121	Optimization of ion transport in a combined RFQ Cooler with axial magnetic field. Journal of Physics: Conference Series, 2022, 2244, 012064.	0.4	0