Enrico Allaria

List of Publications by Year
in descending order

146 papers	4,929 citations	101543 36 h-index	95266 68 g-index
147 all docs	147 docs citations	147 times ranked	3232 citing authors

#	Article	IF	Citations
1	Highly coherent and stable pulses from the FERMI seeded free-electron laser in the extreme ultraviolet. Nature Photonics, 2012, 6, 699-704.	31.4	903
2	Two-stage seeded soft-X-ray free-electron laser. Nature Photonics, 2013, 7, 913-918.	31.4	424
3	Influence of observational noise on the recurrence quantification analysis. Physica D: Nonlinear Phenomena, 2002, 171, 138-152.	2.8	210
4	Coherent control with a short-wavelength free-electron laser. Nature Photonics, 2016, 10, 176-179.	31.4	197
5	Two-colour pumpâ€“probe experiments with a twin-pulse-seed extreme ultraviolet free-electron laser. Nature Communications, 2013, 4, 2476.	12.8	156
6	The FERMI@Elettra free-electron-laser source for coherent x-ray physics: photon properties, beam transport system and applications. New Journal of Physics, 2010, 12, 075002.	2.9	155
7	Attosecond pulse shaping using a seeded free-electron laser. Nature, 2020, 578, 386-391.	27.8	116
8	Synchronization of Homoclinic Chaos. Physical Review Letters, 2001, 86, 791-794.	7.8	107
9	The FERMI free-electron lasers. Journal of Synchrotron Radiation, 2015, 22, 485-491.	2.4	101
10	Chirped Seeded Free-Electron Lasers: Self-Standing Light Sources for Two-Color Pump-Probe Experiments. Physical Review Letters, 2013, 110, 064801.	7.8	93
11	Coherent soft X-ray pulses from an echo-enabled harmonic generation free-electron laser. Nature Photonics, 2019, 13, 555-561.	31.4	92
12	Experimental Characterization of the Transition to Phase Synchronization of ChaoticCO2Laser Systems. Physical Review Letters, 2002, 89, 194101.	7.8	86
13	Digital holography at 10.6 Î¼m. Optics Communications, 2003, 215, 257-262.	2.1	82
14	Tunability experiments at the FERMI@Elettra free-electron laser. New Journal of Physics, 2012, 14, 113009.	2.9	81
15	Control of the Polarization of a Vacuum-Ultraviolet, High-Gain, Free-Electron Laser. Physical Review X, 2014, 4, .	8.9	80
16	Widely tunable two-colour seeded free-electron laser source for resonant-pump resonant-probe magnetic scattering. Nature Communications, 2016, 7, 10343.	12.8	77
17	Spectrotemporal Shaping of Seeded Free-Electron Laser Pulses. Physical Review Letters, 2015, 115, 114801.	7.8	68
18	Soft X-Ray Second Harmonic Generation as an Interfacial Probe. Physical Review Letters, 2018, 120, 023901.	7.8	64

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19	Constructive effects of noise in homoclinic chaotic systems. Physical Review E, 2003, 67, 066220.	2.1	57
20	Generation of Ultrashort Coherent Vacuum Ultraviolet Pulses Using Electron Storage Rings: A New Bright Light Source for Experiments. Physical Review Letters, 2008, 101, 053902.	7.8	55
21	Single-shot spectro-temporal characterization of XUV pulses from a seeded free-electron laser. Nature Communications, 2015, 6, 8075.	12.8	55
22	Noise-enhanced synchronization of homoclinic chaos in aCO2laser. Physical Review E, 2003, 67, 015205.	2.1	50
23	Soft-X-Ray Coherent Radiation Using a Single-Cascade Free-Electron Laser. Physical Review Letters, 2007, 99, 014801.	7.8	50
24	Generation of Phase-Locked Pulses from a Seeded Free-Electron Laser. Physical Review Letters, 2016, 116, 024801.	7.8	50
25	Tracking attosecond electronic coherences using phase-manipulated extreme ultraviolet pulses. Nature Communications, 2020, 11, 883.	12.8	50
26	Laser heater commissioning at an externally seeded free-electron laser. Physical Review Special Topics: Accelerators and Beams, 2014, 17, .	1.8	49
27	Multicolor High-Gain Free-Electron Laser Driven by Seeded Microbunching Instability. Physical Review Letters, 2015, 115, 214801.	7.8	48
28	Pulse Duration of Seeded Free-Electron Lasers. Physical Review X, 2017, 7, .	8.9	47
29	Single Shot Polarization Characterization of XUV FEL Pulses from Crossed Polarized Undulators. Scientific Reports, 2015, 5, 13531.	3.3	44
30	Chirped pulse amplification in an extreme-ultraviolet free-electron laser. Nature Communications, 2016, 7, 13688.	12.8	43
31	Two-colour generation in a chirped seeded free-electron laser: a close look. Optics Express, 2013, 21, 22728.	3.4	42
32	Delayed self-synchronization in homoclinic chaos. Physical Review E, 2002, 65, 046237.	2.1	40
33	The TeraFERMI terahertz source at the seeded FERMI free-electron-laser facility. Review of Scientific Instruments, 2013, 84, 022702.	1.3	39
34	Experimental Demonstration of Electron Longitudinal-Phase-Space Linearization by Shaping the Photoinjector Laser Pulse. Physical Review Letters, 2014, 112, 044801.	7.8	39
35	Photoelectric effect with a twist. Nature Photonics, 2020, 14, 554-558.	31.4	39
36	Optimization of a high brightness photoinjector for a seeded FEL facility. Journal of Instrumentation, 2013, 8, P05015-P05015.	1.2	37

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37	Extreme-Ultraviolet Vortices from a Free-Electron Laser. Physical Review X, 2017, 7, .	8.9	36
38	Symmetry breakdown of electron emission in extreme ultraviolet photoionization of argon. Nature Communications, 2018, 9, 4659.	12.8	36
39	Autonomous Bursting in a Homoclinic System. Physical Review Letters, 2002, 88, 144101.	7.8	34
40	Experimental Demonstration of Enhanced Self-Amplified Spontaneous Emission by an Optical Klystron. Physical Review Letters, 2015, 114, 013901.	7.8	32
41	Time-Resolved Measurement of Interatomic Coulombic Decay Induced by Two-Photon Double Excitation of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>Ne</mml:mi></mml:mrow><mml:mrow><mml:mn>2</mml:mn></ Physical Review Letters, 2017, 118, 033202.	7.8	32
42	Coherent Light with Tunable Polarization from Single-Pass Free-Electron Lasers. Physical Review Letters, 2011, 107, 084801.	7.8	30
43	Observation and Control of Laser-Enabled Auger Decay. Physical Review Letters, 2017, 119, 073203.	7.8	29
44	Numerical and experimental exploration of phase control of chaos. Chaos, 2006, 16, 013111.	2.5	28
45	Design and simulation challenges for FERMI@elettra. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2009, 608, 19-27.	1.6	28
46	Magnetization and Microstructure Dynamics in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>Fe</mml:mi><mml:mo>/</mml:mo><mml:mi>MnAs</mml:mi><mml:mo>/</mml:mo><mml:mi> stretchy="false">(</mml:mo><mml:mn>001</mml:mn><mml:mo) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 372 Td (stretchy="false">)</mn	7.8	26
47	Laser Pulse. Physical Review Letters, 2014, 113, 247202. Competition of synchronization domains in arrays of chaotic homoclinic systems. Physical Review E, 2003, 68, 066209.	2.1	25
48	Coherent control schemes for the photoionization of neon and helium in the Extreme Ultraviolet spectral region. Scientific Reports, 2018, 8, 7774.	3.3	25
49	Slow Interatomic Coulombic Decay of Multiply Excited Neon Clusters. Physical Review Letters, 2016, 117, 276806.	7.8	24
50	New Method for Measuring Angle-Resolved Phases in Photoemission. Physical Review X, 2020, 10, .	8.9	23
51	Attractor Selection in Chaotic Dynamics. Physical Review Letters, 2005, 95, 184101.	7.8	22
52	Complete Characterization of Phase and Amplitude of Bichromatic Extreme Ultraviolet Light. Physical Review Letters, 2019, 123, 213904.	7.8	21
53	Global manifold control in a driven laser: sustaining chaos and regular dynamics. Physica D: Nonlinear Phenomena, 2004, 189, 70-80.	2.8	20
54	Impact of Non-Gaussian Electron Energy Heating upon the Performance of a Seeded Free-Electron Laser. Physical Review Letters, 2014, 112, 114802.	7.8	20

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55	Beyond the limits of 1D coherent synchrotron radiation. New Journal of Physics, 2018, 20, 073035.	2.9	20
56	Generation and measurement of intense few-femtosecond superradiant extreme-ultraviolet free-electron laser pulses. Nature Photonics, 2021, 15, 523-529.	31.4	20
57	Information encoding in homoclinic chaotic systems. Chaos, 2003, 13, 286-290.	2.5	19
58	Self-Induced Harmonic Generation in a Storage-Ring Free-Electron Laser. Physical Review Letters, 2008, 100, 104801.	7.8	19
59	Transverse emittance preservation during bunch compression in the Fermi free electron laser. Physical Review Special Topics: Accelerators and Beams, 2012, 15, .	1.8	18
60	Echo-Enabled Harmonic Generation Studies for the FERMI Free-Electron Laser. Photonics, 2017, 4, 19.	2.0	18
61	Stochastic bifurcation in a driven laser system: Experiment and theory. Physical Review E, 2004, 70, 026220.	2.1	17
62	Experimental Characterization of Nonlinear Harmonic Generation in Planar and Helical Undulators. Physical Review Letters, 2008, 100, 174801.	7.8	17
63	Coherent THz Emission Enhanced by Coherent Synchrotron Radiation Wakefield. Scientific Reports, 2018, 8, 11661.	3.3	16
64	Transient polarization dynamics in a CO2 laser. Optics Communications, 2003, 217, 335-342.	2.1	14
65	Passive Linearization of the Magnetic Bunch Compression Using Self-Induced Fields. Physical Review Letters, 2017, 119, 184802.	7.8	14
66	Enhanced seeded free electron laser performance with a â€œcoldâ€•electron beam. Physical Review Accelerators and Beams, 2020, 23, .	1.6	14
67	Homoclinic chaos in a laser: synchronization and its implications in biological systems. Optics and Lasers in Engineering, 2003, 39, 293-304.	3.8	13
68	Experimental control of coherence of a chaotic oscillator. Physical Review E, 2004, 69, 066211.	2.1	13
69	In phase and antiphase synchronization of coupled homoclinic chaotic oscillators. Chaos, 2004, 14, 118-122.	2.5	13
70	Experimental evidence of intrabeam scattering in a free-electron laser driver. New Journal of Physics, 2020, 22, 083053.	2.9	13
71	Propensity Criterion for Networking in an Array of Coupled Chaotic Systems. Physical Review Letters, 2003, 91, 234101.	7.8	12
72	A detailed investigation of single-photon laser enabled Auger decay in neon. New Journal of Physics, 2019, 21, 113036.	2.9	12

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73	Optical Klystron Enhancement to Self Amplï¬ed Spontaneous Emission at FERMI. Photonics, 2017, 4, 15.	2.0	11
74	Polarization Characterization of Soft X-Ray Radiation at FERMI FEL-2. Photonics, 2017, 4, 29.	2.0	11
75	Element Selective Probe of the Ultra-Fast Magnetic Response to an Element Selective Excitation in Fe-Ni Compounds Using a Two-Color FEL Source. Photonics, 2017, 4, 6.	2.0	9
76	Free electron laser polarization control with interfering crossed polarized fields. Physical Review Accelerators and Beams, 2019, 22, .	1.6	9
77	Coupling scheme for complete synchronization of periodically forced chaoticCO2lasers. Physical Review E, 2004, 70, 036208.	2.1	8
78	Experimental demonstration of frequency pulling in single-pass free-electron lasers. Optics Express, 2011, 19, 10619.	3.4	8
79	Polarization competition in a quasi-isotropic CO_2 laser. Optics Letters, 2001, 26, 605.	3.3	7
80	Polarization and spatial competition in a transverse multimodeCO2laser. Physical Review A, 2003, 68, .	2.5	7
81	Predicting phase synchronization in a spiking chaoticCO2laser. Physical Review E, 2004, 70, 035204.	2.1	7
82	Tunability of a seeded free-electron laser through frequency pulling. Europhysics Letters, 2010, 89, 64005.	2.0	7
83	Impact of radiator length in the emitted power for a high gain harmonic generation free-electron laser. Physical Review Special Topics: Accelerators and Beams, 2013, 16, .	1.8	7
84	Characterisation of microbunching instability with 2D Fourier analysis. Scientific Reports, 2020, 10, 5059.	3.3	7
85	Nonlinear harmonics of a seeded free-electron laser as a coherent and ultrafast probe to investigate matter at the water window and beyond. Physical Review A, 2022, 105, .	2.5	7
86	Sub-picosecond coherent VUV source on the Elettra storage ring. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2008, 596, 451-458.	1.6	6
87	Comparison of single neuron models in terms of synchronization propensity. Chaos, 2008, 18, 033108.	2.5	6
88	FERMI@Elettra, a seeded free electron laser source for a broad scientific user program. , 2011, , .		6
89	Time resolved pump-probe scattering in MnAs/GaAs(001): A look into the dynamics of Î±-Î² stripe domains. Applied Physics Letters, 2012, 100, 211905.	3.3	6
90	Energy slicing analysis for time-resolved measurement of electron-beam properties. Physical Review Special Topics: Accelerators and Beams, 2014, 17, .	1.8	6

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91	Two-bunch operation with ns temporal separation at the FERMI FEL facility. New Journal of Physics, 2018, 20, 053047.	2.9	6
92	Ultrafast Structural Dynamics along the <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>Î²</mml:mi><mml:mo>â^'</mml:mo><mml:mi>Î³</mml:mi></mml:math> Phase Transition Path in MnAs. Physical Review Letters, 2019, 122, 145702.	7.8	6
93	Flexible and Coherent Soft X-ray Pulses at High Repetition Rate: Current Research and Perspectives. Applied Sciences (Switzerland), 2021, 11, 9729.	2.5	6
94	Negative hysteresis in a laser with modulated parameters. Optics Communications, 2001, 189, 313-319.	2.1	5
95	Complex Attosecond Waveform Synthesis at FEL FERMI. Applied Sciences (Switzerland), 2021, 11, 9791.	2.5	5
96	High-gain harmonic generation with temporally overlapping seed pulses and application to ultrafast spectroscopy. Optics Express, 2020, 28, 29976.	3.4	5
97	Controlling transient dynamics to communicate with homoclinic chaos. Chaos, 2003, 13, 921-925.	2.5	4
98	UNEXPECTED BEHAVIOR IN THE CROSSING OF MICROWAVE AND OPTICAL BEAMS. Modern Physics Letters B, 2005, 19, 1403-1410.	1.9	4
99	Angular distribution of nonlinear harmonic generation in helical undulators: A comparison between experiments and theory. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2011, 654, 575-579.	1.6	4
100	Polarization measurement of free electron laser pulses in the VUV generated by the variable polarization source FERMI. , 2014, , .		4
101	The FERMI seeded-FEL facility: Status and perspectives. AIP Conference Proceedings, 2016, , .	0.4	4
102	Dynamics of the MnAs Î±/Î²-Striped Microstructure and of the Fe Magnetization Reversal in Fe/MnAs/GaAs(001): An Optical-Laser Pumpâ€“Free-Electron-Laser Probe Scattering Experiment. Photonics, 2017, 4, 21.	2.0	4
103	Analysis of two-color photoelectron spectroscopy for attosecond metrology at seeded free-electron lasers. New Journal of Physics, 2021, 23, 043046.	2.9	4
104	Spectrotemporal control of soft x-ray laser pulses. Physical Review Accelerators and Beams, 2020, 23, .	1.6	4
105	Interferometric analysis of reorientational nonlinear phenomena at 106 Âµm in a nematic liquid crystal. Applied Optics, 2003, 42, 4827.	2.1	3
106	Evidence of Noise Induced Synchronization and Coherence Resonance in Homoclinic Chaos. AIP Conference Proceedings, 2003, , .	0.4	3
107	Status and achievements at FERMI@Elettra: the first double cascade seeded EUV-SXR FEL facility open to users. , 2013, , .		3
108	How the optical timing system, the longitudinal diagnostics and the associated feedback systems provide femtosecond stable operation at the FERMI free electron laser. High Power Laser Science and Engineering, 2016, 4, .	4.6	3

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109	Dynamics of Laser-Induced Magnetostructural Phase Transitions in MnAs/GaAs (001) Epitaxial Layers. IEEE Transactions on Magnetics, 2017, 53, 1-4.	2.1	3
110	Characterization of soft x-ray echo-enabled harmonic generation free-electron laser pulses in the presence of incoherent electron beam energy modulations. Physical Review Accelerators and Beams, 2021, 24, .	1.6	3
111	High repetition rate seeded free electron laser with an optical klystron in high-gain harmonic generation. Physical Review Accelerators and Beams, 2021, 24, .	1.6	3
112	Microbunching instability characterization via temporally modulated laser pulses. Physical Review Accelerators and Beams, 2020, 23, .	1.6	2
113	Single-shot transverse coherence in seeded and unseeded free-electron lasers: A comparison. Physical Review Accelerators and Beams, 2022, 25, .	1.6	2
114	Interference of two-photon transitions induced by XUV light. Optica, 2022, 9, 692.	9.3	2
115	Publisherâ€™s Note: Transverse emittance preservation during bunch compression in the Fermi free electron laser [Phys. Rev. ST Accel. Beams15, 020701 (2012)]. Physical Review Special Topics: Accelerators and Beams, 2012, 15, .	1.8	1
116	High quality electron beams for high quality FEL. , 2017, , .		1
117	Addendum: Beyond the limits of 1D coherent synchrotron radiation (2018 New J. Phys. 20 073035). New Journal of Physics, 2021, 23, 049401.	2.9	1
118	Pattern dynamics in an annular laser. European Physical Journal D, 2000, 12, 329-337.	1.3	0
119	PATTERN FORMATION AND DYNAMICS IN AN ANNULAR CO2 LASER. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2001, 11, 2759-2770.	1.7	0
120	Synchronization domains in arrays of chaotic homoclinic systems. , 0, , .		0
121	Experimental characterization of the transition to phase synchronization of chaos. , 0, , .		0
122	Information encoding in a chaotic laser. , 2003, 4829, 1106.		0
123	Self-delayed synchronization and analogies with long term memories. , 2003, 4829, 462.		0
124	Interferometric analysis of self-phase-modulation at 10.6Î¼m in a nematic liquid crystal. , 2003, , .		0
125	Infrared digital holography. , 2003, 5036, 489.		0
126	Predicting Phase Synchronization for Homoclinic Chaos in a CO2 Laser. AIP Conference Proceedings, 2004, , .	0.4	0

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127	Control of oscillation coherence in a chaotic laser. AIP Conference Proceedings, 2004, , .	0.4	0
128	Publisherâ€™s Note: Experimental Characterization of Nonlinear Harmonic Generation in Planar and Helical Undulators [Phys. Rev. Lett.100, 174801 (2008)]. Physical Review Letters, 2008, 101, .	7.8	0
129	The TeraFERMI beamline at the FERMI Free-Electron-Laser. , 2013, , .		0
130	Interatomic Coulombic Decay Processes after Multiple Valence Excitations in Ne Clusters. Journal of Physics: Conference Series, 2015, 635, 112067.	0.4	0
131	Optical klystron SASE at FERMI. Proceedings of SPIE, 2015, , .	0.8	0
132	Experimental characterization of the FERMI laser heater and its impact on the FEL operations. Proceedings of SPIE, 2015, , .	0.8	0
133	Optically induced Fe magnetization reversal in Fe/MnAs/GaAs(001). Proceedings of SPIE, 2015, , .	0.8	0
134	FERMI longitudinal diagnostics: results and future challenges. Proceedings of SPIE, 2015, , .	0.8	0
135	THz coherent transition radiation at TeraFERMI: First characterization of THz radiation and electron beam dynamics. , 2016, , .		0
136	Thermally induced magnetization switching in Fe/MnAs bilayers and ultrafast dynamics of magneto-structural phase transitions in MnAs. , 2017, , .		0
137	TeraFERMI: Status of the beamline and pilot experiments. , 2017, , .		0
138	Publisherâ€™s Note: Extreme-Ultraviolet Vortices from a Free-Electron Laser [Phys. Rev. X 7 , 031036 (2017)]. Physical Review X, 2018, 8, .	8.9	0
139	FLASH2020+: The New High Repetition Rate Coherent Soft X-Ray Facility. , 2021, , .		0
140	POLARIZATION INSTABILITIES IN A QUASI-ISOTROPIC CO₂ LASER. , 2004, , .		0
141	Chirp control in a seeded Free-Electron Laser. , 2014, , .		0
142	Coherent Pulses from a Seeded Free-Electron Laser in the Extreme Ultraviolet. Springer Proceedings in Physics, 2014, , 1-6.	0.2	0
143	Coherent pulses from seeded Free Electron Lasers: the experience at FERMI with high gain harmonic generation and echo enabled harmonic generation. , 2020, , .		0
144	A Novel Attosecond Timing Tool for Free-Electron Laser Experiment. , 2020, , .		0

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145	Synchronization in Coupled and Free Chaotic Systems. , 2007, , 181-198.		0
146	Addendum: Experimental evidence of intrabeam scattering in a free-electron laser driver (2020 New J.) Tj ETQq0 0 0 rgBT /Overlock 10 Tf	2.9	0