

# Flavio Capotondi

## List of Publications by Year in descending order

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96  
papers

2,301  
citations

236833

25  
h-index

233338

45  
g-index

103  
all docs

103  
docs citations

103  
times ranked

2116  
citing authors

#	ARTICLE	IF	CITATIONS
1	Four-wave mixing experiments with extreme ultraviolet transient gratings. <i>Nature</i> , 2015, 520, 205-208.	13.7	184
2	Two-colour pump-probe experiments with a twin-pulse-seed extreme ultraviolet free-electron laser. <i>Nature Communications</i> , 2013, 4, 2476.	5.8	156
3	Imaging Ultrafast Demagnetization Dynamics after a Spatially Localized Optical Excitation. <i>Physical Review Letters</i> , 2014, 112, .	2.9	113
4	The FERMI free-electron lasers. <i>Journal of Synchrotron Radiation</i> , 2015, 22, 485-491.	1.0	101
5	Coherent soft X-ray pulses from an echo-enabled harmonic generation free-electron laser. <i>Nature Photonics</i> , 2019, 13, 555-561.	15.6	92
6	Towards jitter-free pump-probe measurements at seeded free electron laser facilities. <i>Optics Express</i> , 2014, 22, 12869.	1.7	83
7	Tunability experiments at the FERMI@Elettra free-electron laser. <i>New Journal of Physics</i> , 2012, 14, 113009.	1.2	81
8	Control of the Polarization of a Vacuum-Ultraviolet, High-Gain, Free-Electron Laser. <i>Physical Review X</i> , 2014, 4, .	2.8	80
9	Invited Article: Coherent imaging using seeded free-electron laser pulses with variable polarization: First results and research opportunities. <i>Review of Scientific Instruments</i> , 2013, 84, 051301.	0.6	77
10	Widely tunable two-colour seeded free-electron laser source for resonant-pump resonant-probe magnetic scattering. <i>Nature Communications</i> , 2016, 7, 10343.	5.8	77
11	Strain induced effects on the transport properties of metamorphic InAlAs/InGaAs quantum wells. <i>Thin Solid Films</i> , 2005, 484, 400-407.	0.8	75
12	Nanoscale transient gratings excited and probed by extreme ultraviolet femtosecond pulses. <i>Science Advances</i> , 2019, 5, eaaw5805.	4.7	54
13	Seeded X-ray free-electron laser generating radiation with laser statistical properties. <i>Nature Communications</i> , 2018, 9, 4498.	5.8	51
14	Microfocusing of the FERMI@Elettra FEL beam with a K $\alpha$ active optics system: Spot size predictions by application of the WISE code. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2013, 710, 131-138.	0.7	50
15	Pulse Duration of Seeded Free-Electron Lasers. <i>Physical Review X</i> , 2017, 7, .	2.8	47
16	Two-dimensional electron gas formation in undoped In <sub>0.75</sub> Ga <sub>0.25</sub> As/In <sub>0.75</sub> Al <sub>0.25</sub> As quantum wells. <i>Journal of Vacuum Science &amp; Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena</i> , 2004, 22, 702.	1.6	42
17	Soft x-ray induced femtosecond solid-to-solid phase transition. <i>High Energy Density Physics</i> , 2017, 24, 22-27.	0.4	37
18	First Evidence of Purely Extreme-Ultraviolet Four-Wave Mixing. <i>Physical Review Letters</i> , 2018, 120, 263901.	2.9	37

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19	Magnetotransport in high-g-factor low-density two-dimensional electron systems confined in $\text{In}_{0.75}\text{Ga}_{0.25}\text{As}/\text{In}_{0.75}\text{Al}_{0.25}\text{As}$ quantum wells. <i>Physical Review B</i> , 2004, 69, .	1.1	34
20	Multi-color imaging of magnetic Co/Pt heterostructures. <i>Structural Dynamics</i> , 2017, 4, 014301.	0.9	32
21	Multi-colour pulses from seeded free-electron-lasers: towards the development of non-linear core-level coherent spectroscopies. <i>Faraday Discussions</i> , 2014, 171, 487-503.	1.6	29
22	Multipurpose end-station for coherent diffraction imaging and scattering at FERMI@Elettra free-electron laser facility. <i>Journal of Synchrotron Radiation</i> , 2015, 22, 544-552.	1.0	29
23	Multipurpose modular experimental station for the DiProl beamline of Fermi@Elettra free electron laser. <i>Review of Scientific Instruments</i> , 2011, 82, 043711.	0.6	28
24	Generation of coherent phonons by coherent extreme ultraviolet radiation in a transient grating experiment. <i>Applied Physics Letters</i> , 2018, 113, .	1.5	28
25	Anticrossings of spin-split Landau levels in an InAs two-dimensional electron gas with spin-orbit coupling. <i>Physical Review B</i> , 2005, 71, .	1.1	27
26	Magnetization and Microstructure Dynamics in $\text{Fe}/\text{MnAs}$ heterostructures. <i>Physical Review Letters</i> , 2014, 113, 247202.	0.7	22
27	Scattering mechanisms in undoped $\text{In}_{0.75}\text{Ga}_{0.25}\text{As}/\text{In}_{0.75}\text{Al}_{0.25}\text{As}$ two-dimensional electron gases. <i>Journal of Crystal Growth</i> , 2005, 278, 538-543.	0.7	22
28	X-ray holography with a customizable reference. <i>Nature Communications</i> , 2014, 5, 4661.	5.8	22
29	Laser-induced ultrafast demagnetization and perpendicular magnetic anisotropy reduction in a $\text{Co}_{88}\text{Tb}_{12}$ thin film with stripe domains. <i>Physical Review B</i> , 2020, 102, .	1.1	21
30	Four-wave-mixing experiments with seeded free electron lasers. <i>Faraday Discussions</i> , 2016, 194, 283-303.	1.6	20
31	Observation of Magnetic Helicoidal Dichroism with Extreme Ultraviolet Light Vortices. <i>Physical Review Letters</i> , 2022, 128, 077401.	2.9	20
32	Role of multilayer-like interference effects on the transient optical response of $\text{Si}_3\text{N}_4$ films pumped with free-electron laser pulses. <i>Applied Physics Letters</i> , 2014, 104, 191104.	1.5	19
33	Faster chiral versus collinear magnetic order recovery after optical excitation revealed by femtosecond XUV scattering. <i>Nature Communications</i> , 2020, 11, 6304.	5.8	19
34	Ultrafast spin-switching of a ferrimagnetic alloy at room temperature traced by resonant magneto-optical Kerr effect using a seeded free electron laser. <i>Review of Scientific Instruments</i> , 2015, 86, 083901.	0.6	18
35	In situ single-shot diffractive fluence mapping for X-ray free-electron laser pulses. <i>Nature Communications</i> , 2018, 9, 214.	5.8	18
36	Advances in instrumentation for FEL-based four-wave-mixing experiments. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2018, 907, 132-148.	0.7	18

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37	Time-Resolved XUV Absorption Spectroscopy and Magnetic Circular Dichroism at the Ni M <sub>2,3</sub> -Edges. Applied Sciences (Switzerland), 2021, 11, 325.	1.3	17
38	Transient magnetic gratings on the nanometer scale. Structural Dynamics, 2020, 7, 054501.	0.9	16
39	Nanoscale Transient Magnetization Gratings Created and Probed by Femtosecond Extreme Ultraviolet Pulses. Nano Letters, 2021, 21, 2905-2911.	4.5	16
40	Coherent and transient states studied with extreme ultraviolet and X-ray free electron lasers: present and future prospects. Advances in Physics, 2014, 63, 327-404.	35.9	15
41	Nonlinear XUV-optical transient grating spectroscopy at the Si L <sub>2,3</sub> edge. Applied Physics Letters, 2019, 114, 181101.	1.5	15
42	Time-resolved observation of transient precursor state of CO on Ru(0001) using carbon K-edge spectroscopy. Physical Chemistry Chemical Physics, 2020, 22, 2677-2684.	1.3	15
43	Ultrafast Demagnetization Dominates Fluence Dependence of Magnetic Scattering at Co $M$ Edges. Physical Review Letters, 2020, 125, 127201.	2.9	15
44	Generation and detection of 50 GHz surface acoustic waves by extreme ultraviolet pulses. Applied Physics Letters, 2021, 119, .	1.5	15
45	Pulse-to-pulse wavefront sensing at free-electron lasers using ptychography. Journal of Applied Crystallography, 2020, 53, 949-956.	1.9	14
46	Kirkpatrick-Baez active optics system at FERMI: system performance analysis. Journal of Synchrotron Radiation, 2019, 26, 1462-1472.	1.0	13
47	Mesoscale morphology of airborne core-shell nanoparticle clusters: x-ray laser coherent diffraction imaging. Journal of Physics B: Atomic, Molecular and Optical Physics, 2013, 46, 164033.	0.6	12
48	Direct Phasing of Finite Crystals Illuminated with a Free-Electron Laser. Physical Review X, 2015, 5, .	2.8	12
49	Characterization of ultrafast free-electron laser pulses using extreme-ultraviolet transient gratings. Journal of Synchrotron Radiation, 2018, 25, 32-38.	1.0	12
50	Single-shot time-resolved magnetic x-ray absorption at a free-electron laser. Physical Review B, 2019, 99, .	1.1	12
51	All-optical single-shot complete electric field measurement of extreme ultraviolet free electron laser pulses. Optica, 2021, 8, 545.	4.8	12
52	Conformation sequence recovery of a non-periodic object from a diffraction-before-destruction experiment. Optics Express, 2014, 22, 8085.	1.7	11
53	Measurements of ultrafast spin-profiles and spin-diffusion properties in the domain wall area at a metal/ferromagnetic film interface. Scientific Reports, 2017, 7, 15064.	1.6	11
54	Ultrafast Adsorbate Excitation Probed with Subpicosecond-Resolution X-Ray Absorption Spectroscopy. Physical Review Letters, 2021, 127, 016802.	2.9	11

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55	A scheme for lensless X-ray microscopy combining coherent diffraction imaging and differential corner holography. <i>Optics Express</i> , 2012, 20, 25152.	1.7	10
56	Thermoelasticity of Nanoscale Silicon Carbide Membranes Excited by Extreme Ultraviolet Transient Gratings: Implications for Mechanical and Thermal Management. <i>ACS Applied Nano Materials</i> , 2019, 2, 5132-5139.	2.4	10
57	Simultaneous two-color snapshot view on ultrafast charge and spin dynamics in a Fe-Cu-Ni tri-layer. <i>Structural Dynamics</i> , 2020, 7, 054302.	0.9	10
58	Ultrafast Dynamics of Magnetic Domain Structures Probed by Coherent Free-Electron Laser Light. <i>Synchrotron Radiation News</i> , 2013, 26, 27-32.	0.2	9
59	Experimental setups for FEL-based four-wave mixing experiments at FERMI. <i>Journal of Synchrotron Radiation</i> , 2016, 23, 132-140.	1.0	9
60	Element Selective Probe of the Ultra-Fast Magnetic Response to an Element Selective Excitation in Fe-Ni Compounds Using a Two-Color FEL Source. <i>Photonics</i> , 2017, 4, 6.	0.9	9
61	All-Optical Switching on the Nanometer Scale Excited and Probed with Femtosecond Extreme Ultraviolet Pulses. <i>Nano Letters</i> , 2022, 22, 4452-4458.	4.5	9
62	Status of the K-B bendable optics at FERMI@Elettra FEL. , 2014, , .		8
63	Electron-phonon coupling in the two-phonon mode ternary alloy Al <sub>0.25</sub> In <sub>0.75</sub> As/Ga <sub>0.25</sub> In <sub>0.75</sub> As quantum well. <i>Europhysics Letters</i> , 2004, 67, 1031-1037.	0.7	7
64	Probing ultrafast changes of spin and charge density profiles with resonant XUV magnetic reflectivity at the free-electron laser FERMI. <i>Structural Dynamics</i> , 2017, 4, 055101.	0.9	7
65	Ultrafast time-evolution of chiral Néel magnetic domain walls probed by circular dichroism in x-ray resonant magnetic scattering. <i>Nature Communications</i> , 2022, 13, 1412.	5.8	7
66	Nonlinear harmonics of a seeded free-electron laser as a coherent and ultrafast probe to investigate matter at the water window and beyond. <i>Physical Review A</i> , 2022, 105, .	1.0	7
67	Role of the ionization potential in nonequilibrium metals driven to absorption saturation. <i>Physical Review E</i> , 2015, 92, 011101.	0.8	6
68	Optical constants modelling in silicon nitride membrane transiently excited by EUV radiation. <i>Optics Express</i> , 2018, 26, 11877.	1.7	6
69	Nonlinear optics with coherent free electron lasers. <i>Physica Scripta</i> , 2016, T169, 014003.	1.2	5
70	Timing methodologies and studies at the FERMI free-electron laser. <i>Journal of Synchrotron Radiation</i> , 2018, 25, 44-51.	1.0	5
71	Nanoscale Thermoelasticity in Silicon Nitride Membranes: Implications for Thermal Management. <i>ACS Applied Nano Materials</i> , 2021, 4, 10519-10527.	2.4	5
72	Single-shot experiments at the soft X-FEL FERMI using a back-side-illuminated scientific CMOS detector. <i>Journal of Synchrotron Radiation</i> , 2022, 29, 103-110.	1.0	5

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73	K-B bendable system optimization at FERMI@Elettra FEL: impact of different spatial wavelengths on the spot size. , 2013, , .		4
74	Polarization measurement of free electron laser pulses in the VUV generated by the variable polarization source FERMI. , 2014, , .		4
75	The FERMI seeded-FEL facility: Status and perspectives. AIP Conference Proceedings, 2016, , .	0.3	4
76	Multi-Color Imaging of Magnetic Co/Pt Multilayers. IEEE Transactions on Magnetics, 2017, 53, 1-5.	1.2	4
77	Dynamics of the MnAs $\hat{\mu}^2$ -Striped Microstructure and of the Fe Magnetization Reversal in Fe/MnAs/GaAs(001): An Optical-Laser Pumped Free-Electron-Laser Probe Scattering Experiment. Photonics, 2017, 4, 21.	0.9	4
78	Four-wave-mixing experiments and beyond: the TIMER/mini-TIMER setups at FERMI. , 2017, , .		4
79	Spin susceptibility of two-dimensional hole gases in GaAs/AlGaAs heterostructures. Solid State Communications, 2005, 135, 57-61.	0.9	3
80	Status and achievements at FERMI@Elettra: the first double cascade seeded EUV-SXR FEL facility open to users. , 2013, , .		3
81	Exploring the multiparameter nature of EUV-visible wave mixing at the FERMI FEL. Structural Dynamics, 2019, 6, 040901.	0.9	3
82	Effect of Auger recombination on transient optical properties in XUV and soft X-ray irradiated silicon nitride. Scientific Reports, 2021, 11, 5203.	1.6	3
83	Tomography of a seeded free-electron laser focal spot: qualitative and quantitative comparison of two reconstruction methods for spot size characterization. Optics Express, 2021, 29, 36086.	1.7	3
84	Magneto-resistively Detected Electron Spin Resonance in Low-Density Two-Dimensional Electron Gas in GaAs/AlGaAs Single Quantum Wells. IEEE Nanotechnology Magazine, 2005, 4, 100-105.	1.1	2
85	FEL-based transient grating spectroscopy. Proceedings of SPIE, 2015, , .	0.8	2
86	Time-resolved ionization measurements with intense ultrashort XUV and X-ray free-electron laser pulses. Laser and Particle Beams, 2019, 37, 235-241.	0.4	2
87	Short-wavelength four wave mixing experiments using single and two-color schemes at FERMI. Journal of Electron Spectroscopy and Related Phenomena, 2022, 257, 146901.	0.8	2
88	Toward the Extreme Ultra Violet Four Wave Mixing Experiments: From Table Top Lasers to Fourth Generation Light Sources. Photonics, 2015, 2, 57-70.	0.9	1
89	Science Frontiers with X-Ray Free Electron Laser Sources. , 2015, , 761-785.		1
90	The COMIX polarimeter: a compact device for XUV polarization analysis. Journal of Synchrotron Radiation, 2022, 29, 969-977.	1.0	1

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91	Optically induced Fe magnetization reversal in Fe/MnAs/GaAs(001). Proceedings of SPIE, 2015, , .	0.8	0
92	Imaging Non-Local Magnetization Dynamics. Synchrotron Radiation News, 2016, 29, 26-31.	0.2	0
93	Notice of Removal: Generation of acoustic waves by an extreme ultra violet free electron laser in a transient grating experiment. , 2017, , .		0
94	Active optics systems at FERMI Free Electron Laser. , 2015, , .		0
95	Single-shot Measurement of Extreme Ultraviolet Free Electron Laser Pulses. , 2020, , .		0
96	AC/DC: The FERMI FEL Split and Delay Optical Device for Ultrafast X-ray Science. Photonics, 2022, 9, 314.	0.9	0