

# Marion Harmand

## List of Publications by Year in descending order

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Version: 2024-02-01

66  
papers

1,781  
citations

279798

23  
h-index

276875

41  
g-index

66  
all docs

66  
docs citations

66  
times ranked

2609  
citing authors

#	ARTICLE	IF	CITATIONS
1	Achieving few-femtosecond time-sorting at hard X-ray free-electron lasers. <i>Nature Photonics</i> , 2013, 7, 215-218.	31.4	323
2	Targets for high repetition rate laser facilities: needs, challenges and perspectives. <i>High Power Laser Science and Engineering</i> , 2017, 5, .	4.6	106
3	Resolving Ultrafast Heating of Dense Cryogenic Hydrogen. <i>Physical Review Letters</i> , 2014, 112, 105002.	7.8	95
4	Single-shot pulse duration monitor for extreme ultraviolet and X-ray free-electron lasers. <i>Nature Communications</i> , 2013, 4, 1731.	12.8	87
5	Picosecond Short-Range Disorder in Isochorically Heated Aluminum at Solid Density. <i>Physical Review Letters</i> , 2010, 104, 035002.	7.8	75
6	Phase transition lowering in dynamically compressed silicon. <i>Nature Physics</i> , 2019, 15, 89-94.	16.7	70
7	Solving Controversies on the Iron Phase Diagram Under High Pressure. <i>Geophysical Research Letters</i> , 2018, 45, 11,074.	4.0	65
8	Isochoric heating of solids by laser-accelerated protons: Experimental characterization and self-consistent hydrodynamic modeling. <i>High Energy Density Physics</i> , 2010, 6, 21-28.	1.5	56
9	Progress in warm dense matter study with applications to planetology. <i>Physica Scripta</i> , 2014, T161, 014060.	2.5	54
10	X-ray absorption spectroscopy of iron at multimegabar pressures in laser shock experiments. <i>Physical Review B</i> , 2015, 92, .	3.2	51
11	Unraveling the Solid-Liquid-Vapor Phase Transition Dynamics at the Atomic Level with Ultrafast X-Ray Absorption Near-Edge Spectroscopy. <i>Physical Review Letters</i> , 2011, 107, 245006.	7.8	44
12	Broadband, high dynamics and high resolution charge coupled device-based spectrometer in dynamic mode for multi-keV repetitive x-ray sources. <i>Review of Scientific Instruments</i> , 2009, 80, 083505.	1.3	43
13	Dynamic fracture of tantalum under extreme tensile stress. <i>Science Advances</i> , 2017, 3, e1602705.	10.3	41
14	Photon energy dependence of graphitization threshold for diamond irradiated with an intense XUV FEL pulse. <i>Physical Review B</i> , 2013, 88, .	3.2	33
15	Dynamic X-ray diffraction observation of shocked solid iron up to 170 GPa. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016, 113, 7745-7749.	7.1	33
16	Challenges and opportunities in attosecond and XFEL science. <i>Nature Reviews Physics</i> , 2019, 1, 107-111.	26.6	29
17	Evidence for a glassy state in strongly driven carbon. <i>Scientific Reports</i> , 2014, 4, 5214.	3.3	28
18	Electron Kinetics in Femtosecond X-ray Irradiated SiO <sub>2</sub> . <i>Contributions To Plasma Physics</i> , 2013, 53, 347-354.	1.1	27

#	ARTICLE	IF	CITATIONS
19	High dynamic range streak camera for subpicosecond time-resolved x-ray spectroscopy. Review of Scientific Instruments, 2007, 78, 043503.	1.3	26
20	X-ray absorption for the study of warm dense matter. Plasma Physics and Controlled Fusion, 2009, 51, 124021.	2.1	26
21	Simultaneous 8.2-keV phase-contrast imaging and 24.6-keV X-ray diffraction from shock-compressed matter at the LCLS. Applied Physics Letters, 2018, 112, .	3.3	24
22	Broad M-band multi-keV x-ray emission from plasmas created by short laser pulses. Physics of Plasmas, 2009, 16, .	1.9	23
23	Towards simultaneous measurements of electronic and structural properties in ultra-fast x-ray free electron laser absorption spectroscopy experiments. Scientific Reports, 2015, 4, 4724.	3.3	23
24	Equilibration dynamics and conductivity of warm dense hydrogen. Physical Review E, 2014, 90, 013104.	2.1	22
25	Ferrous Iron Under Oxygen-Rich Conditions in the Deep Mantle. Geophysical Research Letters, 2019, 46, 1348-1356.	4.0	22
26	High-power 1 kHz laser-plasma x-ray source for ultrafast x-ray absorption near-edge spectroscopy in the keV range. Applied Physics Letters, 2008, 93, .	3.3	21
27	Recombination-Enhanced Surface Expansion of Clusters in Intense Soft X-Ray Laser Pulses. Physical Review Letters, 2016, 117, 153401.	7.8	21
28	Time evolution of electron structure in femtosecond heated warm dense molybdenum. Physical Review B, 2015, 92, .	3.2	20
29	Ultrafast observation of lattice dynamics in laser-irradiated gold foils. Applied Physics Letters, 2017, 110, .	3.3	20
30	Double conical crystal x-ray spectrometer for high resolution ultrafast x-ray absorption near-edge spectroscopy of Al-K edge. Review of Scientific Instruments, 2010, 81, 063107.	1.3	19
31	Time-resolved x-ray imaging of a laser-induced nanoplasma and its neutral residuals. New Journal of Physics, 2016, 18, 043017.	2.9	18
32	High repetition rate laser produced soft x-ray source for ultrafast x-ray absorption near edge structure measurements. Review of Scientific Instruments, 2007, 78, 113104.	1.3	16
33	Investigating the interaction of x-ray free electron laser radiation with grating structure. Optics Letters, 2012, 37, 3033.	3.3	16
34	Design and performance characterisation of the HAPG von Hámós Spectrometer at the High Energy Density Instrument of the European XFEL. Journal of Instrumentation, 2020, 15, P11033-P11033.	1.2	15
35	Femtosecond optical/hard X-ray timing diagnostics at an FEL: implementation and performance. Proceedings of SPIE, 2013, , .	0.8	14
36	Imaging plasma formation in isolated nanoparticles with ultrafast resonant scattering. Structural Dynamics, 2020, 7, 034303.	2.3	14

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37	Spatio-temporal coherence of free-electron laser radiation in the extreme ultraviolet determined by a Michelson interferometer. <i>Applied Physics Letters</i> , 2014, 105, .	3.3	13
38	<i>Ab initio</i> calculation of x-ray absorption of iron up to 3 Mbar and 8000 K. <i>Physical Review B</i> , 2014, 89, .	3.2	13
39	Melting properties by X-ray absorption spectroscopy: common signatures in binary Fe-C, Fe-O, Fe-S and Fe-Si systems. <i>Scientific Reports</i> , 2020, 10, 11663.	3.3	13
40	Experimental set-up and procedures for the investigation of XUV free electron laser interactions with solids. <i>Journal of Instrumentation</i> , 2013, 8, P02010-P02010.	1.2	12
41	Nanometer-scale characterization of laser-driven compression, shocks, and phase transitions, by x-ray scattering using free electron lasers. <i>Physics of Plasmas</i> , 2017, 24, .	1.9	12
42	Soft x-ray free-electron laser induced damage to inorganic scintillators. <i>Optical Materials Express</i> , 2015, 5, 254.	3.0	11
43	Demonstration of an x-ray Raman spectroscopy setup to study warm dense carbon at the high energy density instrument of European XFEL. <i>Physics of Plasmas</i> , 2021, 28, 082701.	1.9	11
44	Dynamics of rare gas nanoclusters irradiated by short and intense laser pulses. <i>High Energy Density Physics</i> , 2007, 3, 191-197.	1.5	10
45	Xenon and iodine behaviour in magmas. <i>Earth and Planetary Science Letters</i> , 2019, 522, 144-154.	4.4	10
46	Generation of the simplest rotational wave packet in a diatomic molecule: Tracing a two-level superposition in the time domain. <i>Physical Review A</i> , 2012, 85, .	2.5	9
47	In-situ determination of dispersion and resolving power in simultaneous multiple-angle XUV spectroscopy. <i>Journal of Instrumentation</i> , 2011, 6, P10001-P10001.	1.2	8
48	Spectral encoding based measurement of x-ray/optical relative delay to ~10 fs rms. <i>Proceedings of SPIE</i> , 2012, , .	0.8	7
49	Temporal and spectral behavior of sub-picosecond laser-created X-ray sources from low- to moderate-Z elements. <i>High Energy Density Physics</i> , 2010, 6, 99-104.	1.5	6
50	Ultrafast electron kinetics in short pulse laser-driven dense hydrogen. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2015, 48, 224004.	1.5	6
51	Towards a dynamic compression facility at the ESRF. <i>Journal of Synchrotron Radiation</i> , 2022, 29, 167-179.	2.4	6
52	<i>Indirect</i> monitoring shot-to-shot shock waves strength reproducibility during pump-probe experiments. <i>Journal of Applied Physics</i> , 2016, 120, .	2.5	5
53	Plasma switch as a temporal overlap tool for pump-probe experiments at FEL facilities. <i>Journal of Instrumentation</i> , 2012, 7, P08007-P08007.	1.2	3
54	Production and Diagnostics of Dense Matter. <i>Contributions To Plasma Physics</i> , 2015, 55, 67-77.	1.1	3

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55	Caractérisation spectrale et temporelle de l'émission X issue de l'interaction laser-agrégats. European Physical Journal Special Topics, 2006, 138, 73-81.	0.2	1
56	Synchronizing optics and X-rays. Nature Photonics, 2013, 7, 256-256.	31.4	1
57	X-ray diffraction study of phase transformation dynamics of Fe and Fe-Si alloys along the shock Hugoniot using an x-ray free electron laser. Physical Review B, 2022, 105, .	3.2	1
58	<title>Ultra short x-ray source from laser-clusters interaction</title>. , 2006, , .		0
59	K-edge Absorption spectra in Warm Dense Matter. , 2009, , .		0
60	In Situ Characterization of XFEL Beam Intensity Distribution and Focusability by High-Resolution LiF Crystal Detector. Springer Proceedings in Physics, 2018, , 109-115.	0.2	0
61	Time-resolved X-ray spectra of hot & dense plasmas from laser-clusters interaction. European Physical Journal Special Topics, 2006, 133, 963-966.	0.2	0
62	Absorption X près des seuils (XANES, EXAFS) pour l'étude de la matière dense et tiède. , 2009, , .		0
63	Dynamique temporelle des sources X créées par laser sub-picoseconde. , 2009, , .		0
64	Review of High Energy Density Physics Activity in Europe. The Review of Laser Engineering, 2013, 41, 39.	0.0	0
65	Dynamique ultra-rapide de la transition de phase solide-liquide-vapeur par spectroscopie XANES résolue en temps. , 2013, , .		0
66	La révolution X-FEL: des lasers à rayons X pour sonder la matière. , 2015, , 44-49.	0.1	0