Henrik Lemke

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/7936516/publications.pdf

Version: 2024-02-01

143 papers	9,925 citations	28242 55 h-index	36008 97 g-index
146 all docs	146 docs citations	146 times ranked	9823 citing authors

#	Article	IF	Citations
1	Linac Coherent Light Source: The first five years. Reviews of Modern Physics, 2016, 88, .	16.4	477
2	Nonlinear lattice dynamics as a basis for enhanced superconductivity in YBa2Cu3O6.5. Nature, 2014, 516, 71-73.	13.7	391
3	Tracking excited-state charge and spin dynamics in iron coordination complexes. Nature, 2014, 509, 345-348.	13.7	382
4	Direct observation of ultrafast collective motions in CO myoglobin upon ligand dissociation. Science, 2015, 350, 445-450.	6.0	344
5	Achieving few-femtosecond time-sorting at hard X-ray free-electron lasers. Nature Photonics, 2013, 7, 215-218.	15.6	323
6	SwissFEL: The Swiss X-ray Free Electron Laser. Applied Sciences (Switzerland), 2017, 7, 720.	1.3	272
7	Architecture of the synaptotagminâ€“SNARE machinery for neuronal exocytosis. Nature, 2015, 525, 62-67.	13.7	268
8	Ultrafast Three-Dimensional Imaging of Lattice Dynamics in Individual Gold Nanocrystals. Science, 2013, 341, 56-59.	6.0	264
9	Imaging Molecular Motion: Femtosecond X-Ray Scattering of an Electrocyclic Chemical Reaction. Physical Review Letters, 2015, 114, 255501.	2.9	254
10	A time-dependent order parameter for ultrafast photoinduced phase transitions. Nature Materials, 2014, 13, 923-927.	13.3	214
11	X-ray and optical wave mixing. Nature, 2012, 488, 603-608.	13.7	199
12	Femtosecond X-ray Absorption Spectroscopy at a Hard X-ray Free Electron Laser: Application to Spin Crossover Dynamics. Journal of Physical Chemistry A, 2013, 117, 735-740.	1.1	183
13	High Mobility Ambipolar Charge Transport in Polyselenophene Conjugated Polymers. Advanced Materials, 2010, 22, 2371-2375.	11.1	178
14	The X-ray Pumpâ€“Probe instrument at the LinacÂCoherent Light Source. Journal of Synchrotron Radiation, 2015, 22, 503-507.	1.0	159
15	Ultrafast myoglobin structural dynamics observed with an X-ray free-electron laser. Nature Communications, 2015, 6, 6772.	5.8	157
16	The ultrafast Einsteinâ€“de Haas effect. Nature, 2019, 565, 209-212.	13.7	151
17	Ultrafast Photovoltaic Response in Ferroelectric Nanolayers. Physical Review Letters, 2012, 108, 087601.	2.9	150
18	Drop-on-demand sample delivery for studying biocatalysts in action at X-ray free-electron lasers. Nature Methods, 2017, 14, 443-449.	9.0	150

#	Article	IF	Citations
19	Fourier-transform inelastic X-ray scattering from time- and momentum-dependent phononâ€“phonon correlations. Nature Physics, 2013, 9, 790-794.	6.5	149
20	Coherent structural trapping through wave packet dispersion during photoinduced spin state switching. Nature Communications, 2017, 8, 15342.	5.8	149
21	Mapping the conformational landscape of a dynamic enzyme by multitemperature and XFEL crystallography. ELife, 2015, 4, .	2.8	143
22	A compact and cost-effective hard X-ray free-electron laser driven by a high-brightness and low-energy electron beam. Nature Photonics, 2020, 14, 748-754.	15.6	140
23	A single-shot transmissive spectrometer for hard x-ray free electron lasers. Applied Physics Letters, 2012, 101, .	1.5	129
24	Goniometer-based femtosecond crystallography with X-ray free electron lasers. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 17122-17127.	3.3	122
25	Ultrafast energy- and momentum-resolved dynamics of magnetic correlations in the photo-doped Mott insulator Sr2IrO4. Nature Materials, 2016, 15, 601-605.	13.3	120
26	Femtosecond x-ray diffraction reveals a liquidâ€“liquid phase transition in phase-change materials. Science, 2019, 364, 1062-1067.	6.0	120
27	Spectral encoding of x-ray/optical relative delay. Optics Express, 2011, 19, 21855.	1.7	119
28	Single Shot Spatial and Temporal Coherence Properties of the SLAC Linac Coherent Light Source in the Hard X-Ray Regime. Physical Review Letters, 2012, 108, 024801.	2.9	115
29	Sequential Activation of Molecular Breathing and Bending during Spin-Crossover Photoswitching Revealed by Femtosecond Optical and X-Ray Absorption Spectroscopy. Physical Review Letters, 2014, 113, 227402.	2.9	115
30	Simulating X-ray diffraction of textured films. Journal of Applied Crystallography, 2008, 41, 262-271.	1.9	114
31	Guestâ€“Host Interactions Investigated by Time-Resolved X-ray Spectroscopies and Scattering at MHz Rates: Solvation Dynamics and Photoinduced Spin Transition in Aqueous Fe(bipy)₃²⁺. Journal of Physical Chemistry A, 2012, 116, 9878-9887.	1.1	112
32	CSPAD-140k: A versatile detector for LCLS experiments. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2013, 718, 550-553.	0.7	106
33	Fixed target matrix for femtosecond time-resolved and in situ serial micro-crystallography. Structural Dynamics, 2015, 2, 054302.	0.9	102
34	Manipulating charge transfer excited state relaxation and spin crossover in iron coordination complexes with ligand substitution. Chemical Science, 2017, 8, 515-523.	3.7	102
35	The CSPAD megapixel x-ray camera at LCLS. Proceedings of SPIE, 2012, , .	0.8	99
36	High Contrast X-ray Speckle from Atomic-Scale Order in Liquids and Glasses. Physical Review Letters, 2012, 109, 185502.	2.9	97

#	Article	IF	Citations
37	Finding intersections between electronic excited state potential energy surfaces with simultaneous ultrafast X-ray scattering and spectroscopy. Chemical Science, 2019, 10, 5749-5760.	3.7	90
38	Acoustic Injectors for Drop-On-Demand Serial Femtosecond Crystallography. Structure, 2016, 24, 631-640.	1.6	88
39	Spin-state studies with XES and RIXS: From static to ultrafast. Journal of Electron Spectroscopy and Related Phenomena, 2013, 188, 166-171.	0.8	87
40	Femtosecond X-Ray Scattering Study of Ultrafast Photoinduced Structural Dynamics in Solvated<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mo stretchy="false">[</mml:mo><mml:mi>Co</mml:mi><mml:mo stretchy="false">(</mml:mo><mml:mtext) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 612 Td (mathvariant="bold">terpy</mml:mtext><mml:	2.9	86
41	Demonstration of Single-Crystal Self-Seeded Two-Color X-Ray Free-Electron Lasers. Physical Review Letters, 2014, 113, 254801.	2.9	85
42	Ultrafast Light-Induced Spin-State Trapping Photophysics Investigated in Fe(phen)₂(NCS)₂ Spin-Crossover Crystal. Accounts of Chemical Research, 2015, 48, 774-781.	7.6	85
43	Observing Solvation Dynamics with Simultaneous Femtosecond X-ray Emission Spectroscopy and X-ray Scattering. Journal of Physical Chemistry B, 2016, 120, 1158-1168.	1.2	85
44	Ultrafast terahertz-field-driven ionic response in ferroelectric <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi mathvariant="normal">BaTiO</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:math>. Physical Review B, 2016, 94, .	1.1	78
45	Ultrafast Excited State Relaxation of a Metalloporphyrin Revealed by Femtosecond X-ray Absorption Spectroscopy. Journal of the American Chemical Society, 2016, 138, 8752-8764.	6.6	77
46	Vibrational wavepacket dynamics in Fe carbene photosensitizer determined with femtosecond X-ray emission and scattering. Nature Communications, 2020, 11, 634.	5.8	75
47	Atomistic characterization of the active-site solvation dynamics of a model photocatalyst. Nature Communications, 2016, 7, 13678.	5.8	74
48	Detailed Characterization of a Nanosecond-Lived Excited State: X-ray and Theoretical Investigation of the Quintet State in Photoexcited [Fe(terpy)₂]²⁺. Journal of Physical Chemistry C, 2015, 119, 5888-5902.	1.5	72
49	Fixed target combined with spectral mapping: approaching 100% hit rates for serial crystallography. Acta Crystallographica Section D: Structural Biology, 2016, 72, 944-955.	1.1	71
50	High-Performance Solution-Deposited Ambipolar Organic Transistors Based on Terrylene Diimides. Chemistry of Materials, 2010, 22, 2120-2124.	3.2	69
51	Ultrafast X-Ray Scattering Measurements of Coherent Structural Dynamics on the Ground-State Potential Energy Surface of a Diplatinum Molecule. Physical Review Letters, 2019, 122, 063001.	2.9	64
52	Spectral encoding method for measuring the relative arrival time between x-ray/optical pulses. Review of Scientific Instruments, 2014, 85, 083116.	0.6	62
53	High-density grids for efficient data collection from multiple crystals. Acta Crystallographica Section D: Structural Biology, 2016, 72, 2-11.	1.1	62
54	Imaging transient melting of a nanocrystal using an X-ray laser. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 7444-7448.	3.3	59

#	Article	IF	Citations
55	Picosecond time-resolved laser pump/X-ray probe experiments using a gated single-photon-counting area detector. Journal of Synchrotron Radiation, 2009, 16, 387-390.	1.0	58
56	Performance of a beam-multiplexing diamond crystal monochromator at the Linac Coherent Light Source. Review of Scientific Instruments, 2014, 85, 063106.	0.6	55
57	The X-ray Correlation Spectroscopy instrument atÂtheÂLinac Coherent Light Source. Journal of Synchrotron Radiation, 2015, 22, 508-513.	1.0	54
58	Solvent control of charge transfer excited state relaxation pathways in [Fe(2,2â€²-bipyridine)(CN)₄]^{2â^'}. Physical Chemistry Chemical Physics, 2018, 20, 4238-4249.	1.3	52
59	Solution-Based Fabrication of Single-Crystalline Arrays of Organic Nanowires. Langmuir, 2010, 26, 1130-1136.	1.6	50
60	Toward Highlighting the Ultrafast Electron Transfer Dynamics at the Optically Dark Sites of Photocatalysts. Journal of Physical Chemistry Letters, 2013, 4, 1972-1976.	2.1	49
61	Ultrafast terahertz field control of electronic and structural interactions in vanadium dioxide. Physical Review B, 2018, 98, .	1.1	49
62	Displacive lattice excitation through nonlinear phononics viewed by femtosecond X-ray diffraction. Solid State Communications, 2013, 169, 24-27.	0.9	48
63	Structural Processes during Starch Granule Hydration by Synchrotron Radiation Microdiffraction. Biomacromolecules, 2004, 5, 1316-1324.	2.6	46
64	Negative Poisson Ratio of Crystalline Cellulose in Kraft Cooked Norway Spruce. Biomacromolecules, 2006, 7, 1521-1528.	2.6	45
65	Observing heme doming in myoglobin with femtosecond X-ray absorption spectroscopy. Structural Dynamics, 2015, 2, 041713.	0.9	45
66	The creation of large-volume, gradient-free warm dense matter with an x-ray free-electron laser. Physics of Plasmas, 2015, 22, .	0.7	45
67	High-resolution single-shot spectral monitoring of hard x-ray free-electron laser radiation. Optica, 2015, 2, 912.	4.8	44
68	Photoinduced Enhancement of the Charge Density Wave Amplitude. Physical Review Letters, 2016, 117, 056401.	2.9	44
69	Enhancement and maximum in the isobaric specific-heat capacity measurements of deeply supercooled water using ultrafast calorimetry. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	42
70	Ligand manipulation of charge transfer excited state relaxation and spin crossover in [Fe(2,2â€²-bipyridine)2(CN)2]. Structural Dynamics, 2017, 4, 044030.	0.9	41
71	Hot Branching Dynamics in a Lightâ€Harvesting Iron Carbene Complex Revealed by Ultrafast Xâ€ray Emission Spectroscopy. Angewandte Chemie - International Edition, 2020, 59, 364-372.	7.2	41
72	Perspective: Opportunities for ultrafast science at SwissFEL. Structural Dynamics, 2017, 4, 061602.	0.9	40

#	Article	IF	Citations
73	Direct Observation of Acoustic Oscillations in InAs Nanowires. Nano Letters, 2010, 10, 2461-2465.	4.5	39
74	All-diamond optical assemblies for a beam-multiplexing X-ray monochromator at the Linac Coherent Light Source. Journal of Applied Crystallography, 2014, 47, 1329-1336.	1.9	39
75	Single shot speckle and coherence analysis of the hard X-ray free electron laser LCLS. Optics Express, 2013, 21, 24647.	1.7	37
76	Molecular Weight Dependence of Exciton Diffusion in Poly(3â€hexylthiophene). Advanced Energy Materials, 2013, 3, 1445-1453.	10.2	36
77	Photon-in photon-out hard X-ray spectroscopy at the Linac Coherent Light Source. Journal of Synchrotron Radiation, 2015, 22, 612-620.	1.0	35
78	A single-shot intensity-position monitor for hard x-ray FEL sources. Proceedings of SPIE, 2011, , .	0.8	34
79	Performance of an LPD prototype detector at MHz frame rates under Synchrotron and FEL radiation. Journal of Instrumentation, 2013, 8, C11001-C11001.	0.5	34
80	Phonon spectroscopy with sub-meV resolution by femtosecond x-ray diffuse scattering. Physical Review B, 2015, 92, .	1.1	34
81	Single-shot analysis of hard x-ray laser radiation using a noninvasive grating spectrometer. Optics Letters, 2012, 37, 5073.	1.7	33
82	Nonlinear Electron-Phonon Coupling in Doped Manganites. Physical Review Letters, 2017, 118, 247601.	2.9	32
83	Hard X-ray transient grating spectroscopy on bismuth germanate. Nature Photonics, 2021, 15, 499-503.	15.6	31
84	Raster microdiffraction with synchrotron radiation of hydrated biopolymers with nanometre step-resolution: case study of starch granules. Journal of Synchrotron Radiation, 2010, 17, 743-750.	1.0	29
85	Strain wave pathway to semiconductor-to-metal transition revealed by time-resolved X-ray powder diffraction. Nature Communications, 2021, 12, 1239.	5.8	29
86	SwissFEL Aramis beamline photon diagnostics. Journal of Synchrotron Radiation, 2018, 25, 1238-1248.	1.0	29
87	Evidence for a glassy state in strongly driven carbon. Scientific Reports, 2014, 4, 5214.	1.6	28
88	Activation of coherent lattice phonon following ultrafast molecular spin-state photo-switching: A molecule-to-lattice energy transfer. Structural Dynamics, 2016, 3, 023605.	0.9	28
89	Visualization of nanocrystal breathing modes at extreme strains. Nature Communications, 2015, 6, 6577.	5.8	26
90	Real-Time Visualization of Nanocrystal Solidâ€“Solid Transformation Pathways. Nano Letters, 2014, 14, 1995-1999.	4.5	24

#	Article	IF	Citations
91	THz streak camera method for synchronous arrival time measurement of two-color hard X-ray FEL pulses. Optics Express, 2017, 25, 2080.	1.7	23
92	Disentangling detector data in XFEL studies of temporally resolved solution state chemistry. Faraday Discussions, 2015, 177, 443-465.	1.6	22
93	Multiple Supersonic Phase Fronts Launched at a Complex-Oxide Heterointerface. Physical Review Letters, 2017, 118, 027401.	2.9	21
94	Demonstration of simultaneous experiments usingÂthin crystal multiplexing at the Linac CoherentÂLight Source. Journal of Synchrotron Radiation, 2015, 22, 626-633.	1.0	20
95	Signal to noise considerations for single crystal femtosecond time resolved crystallography of the Photoactive Yellow Protein. Faraday Discussions, 2014, 171, 439-455.	1.6	19
96	Experimental station Bernina at SwissFEL: condensed matter physics on femtosecond time scales investigated by X-ray diffraction and spectroscopic methods. Journal of Synchrotron Radiation, 2019, 26, 874-886.	1.0	19
97	Focus characterization at an X-ray free-electron laser by coherent scattering and speckle analysis. Journal of Synchrotron Radiation, 2015, 22, 599-605.	1.0	18
98	Theoretical Investigation of Perylene Dimers and Excimers and Their Signatures in X-Ray Diffraction. Journal of Physical Chemistry A, 2008, 112, 8179-8187.	1.1	17
99	Self-Assembly and Near Perfect Macroscopic Alignment of Fluorescent Triangulenium Salt in Spin-Cast Thin Films on PTFE. Langmuir, 2013, 29, 6728-6736.	1.6	14
100	Femtosecond optical/hard X-ray timing diagnostics at an FEL: implementation and performance. Proceedings of SPIE, 2013, , .	0.8	14
101	ePix100 camera: Use and applications at LCLS. AIP Conference Proceedings, 2016, , .	0.3	14
102	Hot Branching Dynamics in a Lightâ€Harvesting Iron Carbene Complex Revealed by Ultrafast Xâ€ray Emission Spectroscopy. Angewandte Chemie, 2020, 132, 372-380.	1.6	14
103	Electronic and Structural Dynamics During the Switching of the Photomagnetic Complex [Fe(L₂₂₂N₅)(CN)₂]. Chemistry - A European Journal, 2018, 24, 5064-5069.	1.7	13
104	Femtosecond electronic structure response to high intensity XFEL pulses probed by iron X-ray emission spectroscopy. Scientific Reports, 2020, 10, 16837.	1.6	13
105	Pumpâ€“probe experimental methodology at the Linac Coherent Light Source. Journal of Synchrotron Radiation, 2019, 26, 685-691.	1.0	13
106	Ultrafast dynamics of two copper bis-phenanthroline complexes measured by x-ray transient absorption spectroscopy. Journal of Physics B: Atomic, Molecular and Optical Physics, 2017, 50, 154006.	0.6	12
107	Dynamics of the photoinduced insulator-to-metal transition in a nickelate film. Structural Dynamics, 2018, 5, 064501.	0.9	12
108	Opportunities for Chemistry at the SwissFEL X-ray Free Electron Laser. Chimia, 2017, 71, 299.	0.3	11

#	Article	IF	Citations
109	Room temperature XFEL crystallography reveals asymmetry in the vicinity of the two phylloquinones in photosystem I. Scientific Reports, 2021, 11, 21787.	1.6	11
110	Comment on â€œTheoretical Investigation of Perylene Dimers and Excimers and Their Signatures in X-Ray Diffractionâ€• Journal of Physical Chemistry A, 2009, 113, 6849-6850.	1.1	10
111	Imaging ultrafast excited state pathways in transition metal complexes by X-ray transient absorption and scattering using X-ray free electron laser source. Faraday Discussions, 2016, 194, 639-658.	1.6	10
112	Interplays of electron and nuclear motions along CO dissociation trajectory in myoglobin revealed by ultrafast X-rays and quantum dynamics calculations. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	10
113	Design and operation of a hard x-ray transmissive single-shot spectrometer at LCLS. Journal of Physics: Conference Series, 2013, 425, 052033.	0.3	9
114	Correction of complex nonlinear signal response from a pixel array detector. Journal of Synchrotron Radiation, 2015, 22, 584-591.	1.0	9
115	Recent development of thin diamond crystals for X-ray FEL beam-sharing. Proceedings of SPIE, 2013, , .	0.8	8
116	Spectral encoding based measurement of x-ray/optical relative delay to ~10 fs rms. Proceedings of SPIE, 2012, , .	0.8	7
117	Measurement of the absolute number of photons of the hard X-ray beamline at the Linac Coherent Light Source. Journal of Synchrotron Radiation, 2019, 26, 320-327.	1.0	7
118	Anomalous temperature dependence of the experimental x-ray structure factor of supercooled water. Journal of Chemical Physics, 2021, 155, 214501.	1.2	7
119	X-ray Diffraction Study of Directionally Grown Perylene Crystallites. Journal of Physical Chemistry C, 2008, 112, 4569-4572.	1.5	5
120	A hard x-ray transmissive single-shot spectrometer for FEL sources. , 2012, , .		5
121	Ultrafast laser-induced melting and ablation studied by time-resolved diffuse X-ray scattering. EPJ Web of Conferences, 2013, 41, 04013.	0.1	5
122	Ultra-thin Bragg crystals for LCLS beam-sharing operation. Proceedings of SPIE, 2012, , .	0.8	4
123	Experimental Measurements of Ultra-Thin Bragg Crystals for LCLS Beam-Sharing Operation. Journal of Physics: Conference Series, 2013, 425, 052002.	0.3	4
124	Studies of the ePix100 low-noise x-ray camera at SLAC. , 2014, , .		4
125	Characterization of the ePix10k camera at SSRL and LCLS. , 2014, , .		4
126	Tuning and Tracking of Coherent Shear Waves in Molecular Films. ACS Omega, 2018, 3, 9929-9933.	1.6	4

#	Article	IF	Citations
127	Plasma switch as a temporal overlap tool for pump-probe experiments at FEL facilities. Journal of Instrumentation, 2012, 7, P08007-P08007.	0.5	3
128	Intensity interferometry measurements with hard x-ray FEL pulses at the Linac Coherent Light Source. , 2014, , .		3
129	New insights into correlated materials in the time domainâ€"combining far-infrared excitation with x-ray probes at cryogenic temperatures. Journal of Physics Condensed Matter, 2021, 33, 374001.	0.7	3
130	Nonlinear delayed symmetry breaking in a solid excited by hard x-ray free electron laser pulses. Applied Physics Letters, 2015, 106, 154101.	1.5	2
131	Ultrafast electron localization in the EuNi2(Si0.21Ge0.79)2 correlated metal. Physical Review Research, 2021, 3, .	1.3	2
132	Measurements at synchrotrons and FELs: Some differences observed with the CSPAD. , 2013, , .		1
133	Transient atomic structure of vibrationally excited YBCO with enhanced superconducting coherence above Tc. , 2014, , .		1
134	Goniometer-based femtosecond X-ray diffraction of mutant 30S ribosomal subunit crystals. Structural Dynamics, 2015, 2, 041706.	0.9	1
135	Spatial Distortion of Vibration Modes via Magnetic Correlation of Impurities. Physical Review Letters, 2018, 120, 105501.	2.9	1
136	Reply to â€œComment on â€˜Ultrafast terahertz-field-driven ionic response in ferroelectric <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>BaTiO</mml:mi><mml:mn>3</mml:mn></mml:msub></m ' â€• Physical Review B, 2018, 97, .	1.1	1
137	Sub-10 fs RMS Measurement of X-Ray/Optical Delay. , 2012, , .		0
138	Mapping spin-correlations with hard X-ray free-electron laser. EPJ Web of Conferences, 2019, 205, 07007.	0.1	0
139	X-ray / Optical Sum Frequency Generation. , 2013, , .		0
140	Ultrafast reaction pathways in a metalloprotein revealed by optical polarization selected X-ray transient absorption spectroscopy and quantum mechanical calculations. Acta Crystallographica Section A: Foundations and Advances, 2018, 74, a450-a450.	0.0	0
141	Pulse power measurements and attenuator characterization of the hard X-ray beamline at the Linac Coherent Light Source. , 2019, , .		0
142	Optical second harmonic generation in LiB3O5 modulated by intense femtosecond X-ray pulses. Optics Express, 2020, 28, 11117.	1.7	0
143	Melting of magnetic order in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>NaOsO</mml:mi><mml:mn>3</mml:mn></mml:msub> by femtosecond laser pulses. Physical Review B, 2022, 105, .	1.1	0