

Marco Cammarata

List of Publications by Year in descending order

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115
papers

6,351
citations

57758

44
h-index

69250

77
g-index

119
all docs

119
docs citations

119
times ranked

7282
citing authors

| # | ARTICLE | IF | CITATIONS |
|----|---|------|-----------|
| 1 | Light-induced structural changes in a full-length cyanobacterial phytochrome probed by time-resolved X-ray scattering. <i>Communications Biology</i> , 2019, 2, 1. | 4.4 | 611 |
| 2 | Achieving few-femtosecond time-sorting at hard X-ray free-electron lasers. <i>Nature Photonics</i> , 2013, 7, 215-218. | 31.4 | 323 |
| 3 | Tracking the structural dynamics of proteins in solution using time-resolved wide-angle X-ray scattering. <i>Nature Methods</i> , 2008, 5, 881-886. | 19.0 | 245 |
| 4 | Ultrafast X-ray Diffraction of Transient Molecular Structures in Solution. <i>Science</i> , 2005, 309, 1223-1227. | 12.6 | 230 |
| 5 | X-ray and optical wave mixing. <i>Nature</i> , 2012, 488, 603-608. | 27.8 | 199 |
| 6 | Femtosecond X-ray Absorption Spectroscopy at a Hard X-ray Free Electron Laser: Application to Spin Crossover Dynamics. <i>Journal of Physical Chemistry A</i> , 2013, 117, 735-740. | 2.5 | 183 |
| 7 | The X-ray Pump-Probe instrument at the Linac Coherent Light Source. <i>Journal of Synchrotron Radiation</i> , 2015, 22, 503-507. | 2.4 | 159 |
| 8 | Ultrafast myoglobin structural dynamics observed with an X-ray free-electron laser. <i>Nature Communications</i> , 2015, 6, 6772. | 12.8 | 157 |
| 9 | Chromophore twisting in the excited state of a photoswitchable fluorescent protein captured by time-resolved serial femtosecond crystallography. <i>Nature Chemistry</i> , 2018, 10, 31-37. | 13.6 | 152 |
| 10 | Ultrafast Photovoltaic Response in Ferroelectric Nanolayers. <i>Physical Review Letters</i> , 2012, 108, 087601. | 7.8 | 150 |
| 11 | Fourier-transform inelastic X-ray scattering from time- and momentum-dependent phonon-phonon correlations. <i>Nature Physics</i> , 2013, 9, 790-794. | 16.7 | 149 |
| 12 | Coherent structural trapping through wave packet dispersion during photoinduced spin state switching. <i>Nature Communications</i> , 2017, 8, 15342. | 12.8 | 149 |
| 13 | A single-shot transmissive spectrometer for hard x-ray free electron lasers. <i>Applied Physics Letters</i> , 2012, 101, . | 3.3 | 129 |
| 14 | Nanofocusing of hard X-ray free electron laser pulses using diamond based Fresnel zone plates. <i>Scientific Reports</i> , 2011, 1, 57. | 3.3 | 126 |
| 15 | Spectral encoding of x-ray/optical relative delay. <i>Optics Express</i> , 2011, 19, 21855. | 3.4 | 119 |
| 16 | Structural Dynamics of Light-Driven Proton Pumps. <i>Structure</i> , 2009, 17, 1265-1275. | 3.3 | 118 |
| 17 | Time-Resolved X-ray Scattering of an Electronically Excited State in Solution. Structure of the U^{3+} State of Tetrakis- $\frac{1}{4}$ -pyrophosphitodiplatinate(II). <i>Journal of the American Chemical Society</i> , 2009, 131, 502-508. | 13.7 | 118 |
| 18 | Single Shot Spatial and Temporal Coherence Properties of the SLAC Linac Coherent Light Source in the Hard X-Ray Regime. <i>Physical Review Letters</i> , 2012, 108, 024801. | 7.8 | 115 |

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|----|---|------|-----------|
| 19 | Sequential Activation of Molecular Breathing and Bending during Spin-Crossover Photoswitching Revealed by Femtosecond Optical and X-Ray Absorption Spectroscopy. <i>Physical Review Letters</i> , 2014, 113, 227402. | 7.8 | 115 |
| 20 | Chopper system for time resolved experiments with synchrotron radiation. <i>Review of Scientific Instruments</i> , 2009, 80, 015101. | 1.3 | 106 |
| 21 | Light-Induced Structural Changes in a Photosynthetic Reaction Center Caught by Laue Diffraction. <i>Science</i> , 2010, 328, 630-633. | 12.6 | 103 |
| 22 | Impulsive solvent heating probed by picosecond x-ray diffraction. <i>Journal of Chemical Physics</i> , 2006, 124, 124504. | 3.0 | 102 |
| 23 | High Contrast X-ray Speckle from Atomic-Scale Order in Liquids and Glasses. <i>Physical Review Letters</i> , 2012, 109, 185502. | 7.8 | 97 |
| 24 | Using synchrotrons and XFELs for time-resolved X-ray crystallography and solution scattering experiments on biomolecules. <i>Current Opinion in Structural Biology</i> , 2015, 35, 41-48. | 5.7 | 97 |
| 25 | Charge transfer driven by ultrafast spin transition in a CoFe Prussian blue analogue. <i>Nature Chemistry</i> , 2021, 13, 10-14. | 13.6 | 96 |
| 26 | Structural Determination of a Transient Isomer of CH ₂ I ₂ by Picosecond X-Ray Diffraction. <i>Physical Review Letters</i> , 2005, 94, . | 7.8 | 93 |
| 27 | Mechanism and dynamics of fatty acid photodecarboxylase. <i>Science</i> , 2021, 372, . | 12.6 | 93 |
| 28 | Megahertz data collection from protein microcrystals at an X-ray free-electron laser. <i>Nature Communications</i> , 2018, 9, 3487. | 12.8 | 89 |
| 29 | Ultrafast Light-Induced Spin-State Trapping Photophysics Investigated in Fe(phen) ₂ (NCS) ₂ Spin-Crossover Crystal. <i>Accounts of Chemical Research</i> , 2015, 48, 774-781. | 15.6 | 85 |
| 30 | Observing Solvation Dynamics with Simultaneous Femtosecond X-ray Emission Spectroscopy and X-ray Scattering. <i>Journal of Physical Chemistry B</i> , 2016, 120, 1158-1168. | 2.6 | 85 |
| 31 | The Short-Lived Signaling State of the Photoactive Yellow Protein Photoreceptor Revealed by Combined Structural Probes. <i>Journal of the American Chemical Society</i> , 2011, 133, 9395-9404. | 13.7 | 83 |
| 32 | Exploring the wavefront of hard X-ray free-electron laser radiation. <i>Nature Communications</i> , 2012, 3, 947. | 12.8 | 76 |
| 33 | Spatiotemporal reaction kinetics of an ultrafast photoreaction pathway visualized by time-resolved liquid x-ray diffraction. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2006, 103, 9410-9415. | 7.1 | 64 |
| 34 | Introducing a standard method for experimental determination of the solvent response in laser pump, X-ray probe time-resolved wide-angle X-ray scattering experiments on systems in solution. <i>Physical Chemistry Chemical Physics</i> , 2013, 15, 15003-15016. | 2.8 | 62 |
| 35 | Absolute pulse energy measurements of soft x-rays at the Linac Coherent Light Source. <i>Optics Express</i> , 2014, 22, 21214. | 3.4 | 61 |
| 36 | Time-Resolved WAXS Reveals Accelerated Conformational Changes in Iodoretinal-Substituted Proteorhodopsin. <i>Biophysical Journal</i> , 2011, 101, 1345-1353. | 0.5 | 60 |

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|----|--|------|-----------|
| 37 | Filming the Birth of Molecules and Accompanying Solvent Rearrangement. <i>Journal of the American Chemical Society</i> , 2013, 135, 3255-3261. | 13.7 | 59 |
| 38 | Photoswitching mechanism of a fluorescent protein revealed by time-resolved crystallography and transient absorption spectroscopy. <i>Nature Communications</i> , 2020, 11, 741. | 12.8 | 56 |
| 39 | Capturing Transient Structures in the Elimination Reaction of Haloalkane in Solution by Transient X-ray Diffraction. <i>Journal of the American Chemical Society</i> , 2008, 130, 5834-5835. | 13.7 | 54 |
| 40 | Transient X-ray Diffraction Reveals Global and Major Reaction Pathways for the Photolysis of Iodoform in Solution. <i>Angewandte Chemie - International Edition</i> , 2008, 47, 1047-1050. | 13.8 | 53 |
| 41 | Unveiling the Timescale of the T Transition in Human Hemoglobin. <i>Journal of Molecular Biology</i> , 2010, 400, 951-962. | 4.2 | 51 |
| 42 | 100-picosecond Diffraction Catches Structural Transients of Laser-Pulse Triggered Switching in a Spin-Crossover Crystal. <i>Chemistry - A European Journal</i> , 2012, 18, 2051-2055. | 3.3 | 50 |
| 43 | Lattice phonon modes of the spin crossover crystal [Fe(phen) ₂ (NCS) ₂] studied by THz, IR, Raman spectroscopies and DFT calculations. <i>European Physical Journal B</i> , 2019, 92, 1. | 1.5 | 47 |
| 44 | Ultrafast Structural Dynamics of the Photocleavage of Protein Hybrid Nanoparticles. <i>ACS Nano</i> , 2011, 5, 3788-3794. | 14.6 | 45 |
| 45 | Observing heme doming in myoglobin with femtosecond X-ray absorption spectroscopy. <i>Structural Dynamics</i> , 2015, 2, 041713. | 2.3 | 45 |
| 46 | The creation of large-volume, gradient-free warm dense matter with an x-ray free-electron laser. <i>Physics of Plasmas</i> , 2015, 22, . | 1.9 | 45 |
| 47 | Structural Tracking of a Bimolecular Reaction in Solution by Time-Resolved X-ray Scattering. <i>Angewandte Chemie - International Edition</i> , 2009, 48, 4180-4184. | 13.8 | 43 |
| 48 | Serial Femtosecond Crystallography and Ultrafast Absorption Spectroscopy of the Photoswitchable Fluorescent Protein IrisFP. <i>Journal of Physical Chemistry Letters</i> , 2016, 7, 882-887. | 4.6 | 43 |
| 49 | Comparison of structural dynamics and coherence of d and MLCT light-induced spin state trapping. <i>Chemical Science</i> , 2017, 8, 4978-4986. | 7.4 | 43 |
| 50 | Photo-Induced Pyridine Substitution in <i>cis</i> -[Ru(bpy) ₂ (py) ₂]Cl ₂ : A Snapshot by Time-Resolved X-ray Solution Scattering. <i>Inorganic Chemistry</i> , 2010, 49, 11240-11248. | 4.0 | 41 |
| 51 | Structure and dynamics of water confined in silica hydrogels: X-ray scattering and dielectric spectroscopy studies. <i>European Physical Journal E</i> , 2003, 12, 63-66. | 1.6 | 37 |
| 52 | Single shot speckle and coherence analysis of the hard X-ray free electron laser LCLS. <i>Optics Express</i> , 2013, 21, 24647. | 3.4 | 37 |
| 53 | Rapid readout detector captures protein time-resolved WAXS. <i>Nature Methods</i> , 2010, 7, 775-776. | 19.0 | 36 |
| 54 | A single-shot intensity-position monitor for hard x-ray FEL sources. <i>Proceedings of SPIE</i> , 2011, , . | 0.8 | 34 |

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|----|--|------|-----------|
| 55 | Single-shot analysis of hard x-ray laser radiation using a noninvasive grating spectrometer. <i>Optics Letters</i> , 2012, 37, 5073. | 3.3 | 33 |
| 56 | The Monod-Wyman-Changeux allosteric model accounts for the quaternary transition dynamics in wild type and a recombinant mutant human hemoglobin. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, 14894-14899. | 7.1 | 33 |
| 57 | Strain wave pathway to semiconductor-to-metal transition revealed by time-resolved X-ray powder diffraction. <i>Nature Communications</i> , 2021, 12, 1239. | 12.8 | 29 |
| 58 | Evidence for a glassy state in strongly driven carbon. <i>Scientific Reports</i> , 2014, 4, 5214. | 3.3 | 28 |
| 59 | Activation of coherent lattice phonon following ultrafast molecular spin-state photo-switching: A molecule-to-lattice energy transfer. <i>Structural Dynamics</i> , 2016, 3, 023605. | 2.3 | 28 |
| 60 | Electron Kinetics in Femtosecond X-ray Irradiated SiO ₂ . <i>Contributions To Plasma Physics</i> , 2013, 53, 347-354. | 1.1 | 27 |
| 61 | Photolysis of Br ₂ in CCl ₄ studied by time-resolved X-ray scattering. <i>Acta Crystallographica Section A: Foundations and Advances</i> , 2010, 66, 252-260. | 0.3 | 26 |
| 62 | Ultrafast coherent motion and helix rearrangement of homodimeric hemoglobin visualized with femtosecond X-ray solution scattering. <i>Nature Communications</i> , 2021, 12, 3677. | 12.8 | 25 |
| 63 | Probing Transient Photoinduced Charge Transfer in Prussian Blue Analogues with Time-Resolved XANES and Optical Spectroscopy. <i>European Journal of Inorganic Chemistry</i> , 2018, 2018, 272-277. | 2.0 | 24 |
| 64 | Photoswitchable 11 nm CsCoFe Prussian Blue Analogue Nanocrystals with High Relaxation Temperature. <i>Inorganic Chemistry</i> , 2020, 59, 13153-13161. | 4.0 | 24 |
| 65 | Experimental station Bernina at SwissFEL: condensed matter physics on femtosecond time scales investigated by X-ray diffraction and spectroscopic methods. <i>Journal of Synchrotron Radiation</i> , 2019, 26, 874-886. | 2.4 | 19 |
| 66 | Structure of a short-lived excited state trinuclear Ag-Pt-Pt complex in aqueous solution by time resolved X-ray scattering. <i>Physical Chemistry Chemical Physics</i> , 2010, 12, 6921. | 2.8 | 18 |
| 67 | Femtosecond optical/hard X-ray timing diagnostics at an FEL: implementation and performance. <i>Proceedings of SPIE</i> , 2013, , . | 0.8 | 14 |
| 68 | Electronic and Structural Dynamics During the Switching of the Photomagnetic Complex [Fe(L ₂₂₂ N ₅)(CN) ₂]. <i>Chemistry - A European Journal</i> , 2018, 24, 5064-5069. | 3.3 | 13 |
| 69 | Femtosecond electronic structure response to high intensity XFEL pulses probed by iron X-ray emission spectroscopy. <i>Scientific Reports</i> , 2020, 10, 16837. | 3.3 | 13 |
| 70 | Probing in cell protein structural changes with time-resolved X-ray scattering. <i>Soft Matter</i> , 2012, 8, 6434. | 2.7 | 12 |
| 71 | Impact of laser on bismuth thin-films. <i>European Physical Journal: Special Topics</i> , 2013, 222, 1277-1285. | 2.6 | 12 |
| 72 | Photoselective MLCT to d-d pathways for light-induced excited spin state trapping. <i>Journal of Chemical Physics</i> , 2019, 151, 171101. | 3.0 | 10 |

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|----|--|-----|-----------|
| 73 | Single Laser Shot Photoinduced Phase Transition of Rubidium Manganese Hexacyanoferrate Investigated by X-ray Diffraction. <i>European Journal of Inorganic Chemistry</i> , 2019, 2019, 3142-3147. | 2.0 | 10 |
| 74 | Interplays of electron and nuclear motions along CO dissociation trajectory in myoglobin revealed by ultrafast X-rays and quantum dynamics calculations. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, . | 7.1 | 10 |
| 75 | Spectroscopic markers of the T α R quaternary transition in human hemoglobin. <i>Biophysical Chemistry</i> , 2005, 114, 27-33. | 2.8 | 9 |
| 76 | Ultrafast Potential Energy Surface Softening of One-Dimensional Organic Conductors Revealed by Picosecond Time-Resolved Laue Crystallography. <i>Journal of Physical Chemistry A</i> , 2010, 114, 7677-7681. | 2.5 | 9 |
| 77 | Design and operation of a hard x-ray transmissive single-shot spectrometer at LCLS. <i>Journal of Physics: Conference Series</i> , 2013, 425, 052033. | 0.4 | 9 |
| 78 | Out-of-equilibrium lattice response to photo-induced charge-transfer in a MnFe Prussian blue analogue. <i>Journal of Materials Chemistry C</i> , 2021, 9, 6773-6780. | 5.5 | 9 |
| 79 | Disentangling Ultrafast Electronic and Structural Dynamics with X-ray Lasers. <i>Chemistry - A European Journal</i> , 2018, 24, 15696-15705. | 3.3 | 8 |
| 80 | Picosecond Diffraction at the ESRF: How Far Have We Come and Where Are We Going?. <i>AIP Conference Proceedings</i> , 2007, , . | 0.4 | 6 |
| 81 | A hard x-ray transmissive single-shot spectrometer for FEL sources. , 2012, , . | | 5 |
| 82 | Dynamic multiple-scattering treatment of X-ray absorption: Parameterization of a new molecular dynamics force field for myoglobin. <i>Structural Dynamics</i> , 2018, 5, 054101. | 2.3 | 5 |
| 83 | MHz data collection of a microcrystalline mixture of different jack bean proteins. <i>Scientific Data</i> , 2019, 6, 18. | 5.3 | 5 |
| 84 | Out-of-equilibrium dynamics driven by photoinduced charge transfer in CsCoFe Prussian blue analogue nanocrystals. <i>Faraday Discussions</i> , 0, 237, 224-236. | 3.2 | 5 |
| 85 | Spectral broadening of the Soret band in myoglobin: an interpretation by the full spectrum of low-frequency modes from a normal modes analysis. <i>European Biophysics Journal</i> , 2005, 34, 881-889. | 2.2 | 4 |
| 86 | Ultra-thin Bragg crystals for LCLS beam-sharing operation. <i>Proceedings of SPIE</i> , 2012, , . | 0.8 | 4 |
| 87 | Impacting materials by light and seeing their structural dynamics. <i>European Physical Journal: Special Topics</i> , 2013, 222, 1077-1092. | 2.6 | 4 |
| 88 | Experimental Measurements of Ultra-Thin Bragg Crystals for LCLS Beam-Sharing Operation. <i>Journal of Physics: Conference Series</i> , 2013, 425, 052002. | 0.4 | 4 |
| 89 | Tuning and Tracking of Coherent Shear Waves in Molecular Films. <i>ACS Omega</i> , 2018, 3, 9929-9933. | 3.5 | 4 |
| 90 | 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 |

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|-----|---|------|-----------|
| 91 | Tracking Atomic Positions in Molecular Reactions by Picosecond X-ray Scattering at the ESRF. Synchrotron Radiation News, 2012, 25, 25-31. | 0.8 | 3 |
| 92 | Dynamical limits for the molecular switching in a photoexcited material revealed by X-ray diffraction. Communications Physics, 2022, 5, . | 5.3 | 3 |
| 93 | Structural dynamics probed by X-ray pulses from synchrotrons and XFELs. Comptes Rendus Physique, 2021, 22, 75-94. | 0.9 | 2 |
| 94 | Structural kinetics in protein-coated gold nanoparticles probed by time-resolved x-ray scattering. Springer Series in Chemical Physics, 2009, , 134-136. | 0.2 | 2 |
| 95 | Spectroscopic studies of hard x-ray free-electron laser-heated foils at 10^{16} W/cm ² irradiances. Proceedings of SPIE, 2011, , . | 0.8 | 1 |
| 96 | Synchronizing optics and X-rays. Nature Photonics, 2013, 7, 256-256. | 31.4 | 1 |
| 97 | Single Laser Shot Photoinduced Phase Transition of Rubidium Manganese Hexacyanoferrate Investigated by X-ray Diffraction. European Journal of Inorganic Chemistry, 2019, 2019, 3121-3121. | 2.0 | 1 |
| 98 | Artificial Electro-Optical Neuron Integrating Hot Electrons in a Mott Insulator. Physical Review Applied, 2022, 17, . | 3.8 | 1 |
| 99 | Shifting photo-stationary light-induced excited spin state trapping equilibrium towards higher temperature by increasing light fluence. Chemical Physics Letters, 2022, 791, 139395. | 2.6 | 1 |
| 100 | Structural Dynamics of Light-Driven Proton Pumps. Biophysical Journal, 2010, 98, 226a. | 0.5 | 0 |
| 101 | Femtosecond Structural Dynamics of Proteins. Synchrotron Radiation News, 2016, 29, 19-23. | 0.8 | 0 |
| 102 | Frontispiece: Disentangling Ultrafast Electronic and Structural Dynamics with X-Ray Lasers. Chemistry - A European Journal, 2018, 24, . | 3.3 | 0 |
| 103 | Tracking molecular motions in solution. Acta Crystallographica Section A: Foundations and Advances, 2007, 63, s104-s104. | 0.3 | 0 |
| 104 | Time-resolved X-ray scattering of an electronically excited state in metal complexes in solution. Acta Crystallographica Section A: Foundations and Advances, 2008, 64, C140-C140. | 0.3 | 0 |
| 105 | Capturing Transient Solute Structures in Solution by Pulsed X-ray Diffraction. Springer Series in Chemical Physics, 2009, , 131-133. | 0.2 | 0 |
| 106 | Protein dynamics probed by time-resolved X-ray scattering at the ESRF. Acta Crystallographica Section A: Foundations and Advances, 2009, 65, s35-s35. | 0.3 | 0 |
| 107 | Lipidic sponge phase crystallization of photosynthetic reaction centres. Acta Crystallographica Section A: Foundations and Advances, 2010, 66, s13-s13. | 0.3 | 0 |
| 108 | Light-induced structural changes in photosynthetic reaction centres. Acta Crystallographica Section A: Foundations and Advances, 2010, 66, s104-s104. | 0.3 | 0 |

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|-----|---|-----|-----------|
| 109 | Measuring femtosecond structural dynamics at a hard X-ray laser: challenges and successes. Acta Crystallographica Section A: Foundations and Advances, 2011, 67, C108-C108. | 0.3 | 0 |
| 110 | X-ray / Optical Sum Frequency Generation. , 2013, , . | | 0 |
| 111 | La révolution X-FEL: des lasers Å rayons X pour sonder la matière. , 2015, , 44-49. | 0.1 | 0 |
| 112 | Time-resolved serial femtosecond crystallography on photoswitchable fluorescent proteins. Acta Crystallographica Section A: Foundations and Advances, 2016, 72, s39-s39. | 0.1 | 0 |
| 113 | Simulations of single-pulse Laue diffraction from proteins with radiation from synchrotron and XFEL sources. Acta Crystallographica Section A: Foundations and Advances, 2016, 72, s142-s142. | 0.1 | 0 |
| 114 | Understanding elastically driven cooperativity in molecular photomagnetic materials. Acta Crystallographica Section A: Foundations and Advances, 2018, 74, e401-e401. | 0.1 | 0 |
| 115 | Multiscale real-time XRD probing of the semiconductor-to-metal ultrafast phase transition in Ti3O5 nanocrystals. Acta Crystallographica Section A: Foundations and Advances, 2018, 74, e402-e402. | 0.1 | 0 |