

Uwe Bergmann

List of Publications by Year in descending order

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115
papers

9,834
citations

50276

46
h-index

36028

97
g-index

120
all docs

120
docs citations

120
times ranked

8343
citing authors

#	ARTICLE	IF	CITATIONS
1	High resolution 1s core hole X-ray spectroscopy in 3d transition metal complexes—electronic and structural information. <i>Coordination Chemistry Reviews</i> , 2005, 249, 65-95.	18.8	830
2	X-ray Emission Spectroscopy Evidences a Central Carbon in the Nitrogenase Iron-Molybdenum Cofactor. <i>Science</i> , 2011, 334, 974-977.	12.6	774
3	X-ray damage to the Mn4Ca complex in single crystals of photosystem II: A case study for metalloprotein crystallography. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2005, 102, 12047-12052.	7.1	585
4	Structures of the intermediates of Kok's photosynthetic water oxidation clock. <i>Nature</i> , 2018, 563, 421-425.	27.8	386
5	Tracking excited-state charge and spin dynamics in iron coordination complexes. <i>Nature</i> , 2014, 509, 345-348.	27.8	382
6	Simultaneous Femtosecond X-ray Spectroscopy and Diffraction of Photosystem II at Room Temperature. <i>Science</i> , 2013, 340, 491-495.	12.6	378
7	Structure of photosystem II and substrate binding at room temperature. <i>Nature</i> , 2016, 540, 453-457.	27.8	323
8	Absence of Mn-Centered Oxidation in the S ₂ → S ₃ Transition: Implications for the Mechanism of Photosynthetic Water Oxidation. <i>Journal of the American Chemical Society</i> , 2001, 123, 7804-7820.	13.7	295
9	Probing Valence Orbital Composition with Iron K ^L X-ray Emission Spectroscopy. <i>Journal of the American Chemical Society</i> , 2010, 132, 9715-9727.	13.7	244
10	Taking snapshots of photosynthetic water oxidation using femtosecond X-ray diffraction and spectroscopy. <i>Nature Communications</i> , 2014, 5, 4371.	12.8	206
11	X-ray emission spectroscopy. <i>Photosynthesis Research</i> , 2009, 102, 255-266.	2.9	197
12	The Electronic Structure of Mn in Oxides, Coordination Complexes, and the Oxygen-Evolving Complex of Photosystem II Studied by Resonant Inelastic X-ray Scattering. <i>Journal of the American Chemical Society</i> , 2004, 126, 9946-9959.	13.7	177
13	Nanoflow electrospinning serial femtosecond crystallography. <i>Acta Crystallographica Section D: Biological Crystallography</i> , 2012, 68, 1584-1587.	2.5	167
14	X-ray Absorption Spectroscopy Study of the Hydrogen Bond Network in the Bulk Water of Aqueous Solutions. <i>Journal of Physical Chemistry A</i> , 2005, 109, 5995-6002.	2.5	156
15	Drop-on-demand sample delivery for studying biocatalysts in action at X-ray free-electron lasers. <i>Nature Methods</i> , 2017, 14, 443-449.	19.0	150
16	Untangling the sequence of events during the S ₂ → S ₃ transition in photosystem II and implications for the water oxidation mechanism. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 12624-12635.	7.1	149
17	Room temperature femtosecond X-ray diffraction of photosystem II microcrystals. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, 9721-9726.	7.1	144
18	Accurate macromolecular structures using minimal measurements from X-ray free-electron lasers. <i>Nature Methods</i> , 2014, 11, 545-548.	19.0	140

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19	X-ray Emission Spectroscopy To Study Ligand Valence Orbitals in Mn Coordination Complexes. Journal of the American Chemical Society, 2009, 131, 13161-13167.	13.7	135
20	A multi-crystal wavelength dispersive x-ray spectrometer. Review of Scientific Instruments, 2012, 83, 073114.	1.3	130
21	Nearest-neighbor oxygen distances in liquid water and ice observed by x-ray Raman based extended x-ray absorption fine structure. Journal of Chemical Physics, 2007, 127, 174504.	3.0	118
22	Manganese K ^L X-ray Emission Spectroscopy As a Probe of Metal-Ligand Interactions. Inorganic Chemistry, 2011, 50, 8397-8409.	4.0	118
23	Energy-dispersive X-ray emission spectroscopy using an X-ray free-electron laser in a shot-by-shot mode. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 19103-19107.	7.1	113
24	Mapping metals in Parkinson's and normal brain using rapid-scanning x-ray fluorescence. Physics in Medicine and Biology, 2009, 54, 651-663.	3.0	112
25	In situ X-ray probing reveals fingerprints of surface platinum oxide. Physical Chemistry Chemical Physics, 2011, 13, 262-266.	2.8	110
26	Metalloprotein entatic control of ligand-metal bonds quantified by ultrafast x-ray spectroscopy. Science, 2017, 356, 1276-1280.	12.6	109
27	1s2p Resonant Inelastic X-ray Scattering of Iron Oxides. Journal of Physical Chemistry B, 2005, 109, 20751-20762.	2.6	108
28	Manipulating charge transfer excited state relaxation and spin crossover in iron coordination complexes with ligand substitution. Chemical Science, 2017, 8, 515-523.	7.4	102
29	X-ray Spectroscopic Observation of an Interstitial Carbide in NifEN-Bound FeMoco Precursor. Journal of the American Chemical Society, 2013, 135, 610-612.	13.7	98
30	Hagfish from the Cretaceous Tethys Sea and a reconciliation of the morphological-molecular conflict in early vertebrate phylogeny. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 2146-2151.	7.1	97
31	Site-Selective EXAFS in Mixed-Valence Compounds Using High-Resolution Fluorescence Detection: A Study of Iron in Prussian Blue. Inorganic Chemistry, 2002, 41, 3121-3127.	4.0	95
32	Mn K-Edge XANES and K ^L XES Studies of Two Mn-Oxo Binuclear Complexes: Investigation of Three Different Oxidation States Relevant to the Oxygen-Evolving Complex of Photosystem II. Journal of the American Chemical Society, 2001, 123, 7031-7039.	13.7	94
33	Observing Solvation Dynamics with Simultaneous Femtosecond X-ray Emission Spectroscopy and X-ray Scattering. Journal of Physical Chemistry B, 2016, 120, 1158-1168.	2.6	85
34	Direct Detection of Oxygen Ligation to the Mn ₄ Ca Cluster of Photosystem II by X-ray Emission Spectroscopy. Angewandte Chemie - International Edition, 2010, 49, 800-803.	13.8	78
35	High-resolution large-acceptance analyzer for x-ray fluorescence and Raman spectroscopy. , 1998, , .		76
36	Metal-Ligand Covalency of Iron Complexes from High-Resolution Resonant Inelastic X-ray Scattering. Journal of the American Chemical Society, 2013, 135, 17121-17134.	13.7	75

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37	Structural dynamics in the water and proton channels of photosystem II during the S2 to S3 transition. <i>Nature Communications</i> , 2021, 12, 6531.	12.8	73
38	Identification of a Single Light Atom within a Multinuclear Metal Cluster Using Valence-to-Core X-ray Emission Spectroscopy. <i>Inorganic Chemistry</i> , 2011, 50, 10709-10717.	4.0	68
39	Chemical Mapping of Paleontological and Archeological Artifacts with Synchrotron X-Rays. <i>Annual Review of Analytical Chemistry</i> , 2012, 5, 361-389.	5.4	64
40	L-Edge X-ray Absorption Spectroscopy of Dilute Systems Relevant to Metalloproteins Using an X-ray Free-Electron Laser. <i>Journal of Physical Chemistry Letters</i> , 2013, 4, 3641-3647.	4.6	64
41	Experimental and Computational X-ray Emission Spectroscopy as a Direct Probe of Protonation States in Oxo-Bridged Mn ^{IV} Dimers Relevant to Redox-Active Metalloproteins. <i>Inorganic Chemistry</i> , 2013, 52, 12915-12922.	4.0	62
42	Probing the oxidation state of transition metal complexes: a case study on how charge and spin densities determine Mn L-edge X-ray absorption energies. <i>Chemical Science</i> , 2018, 9, 6813-6829.	7.4	60
43	Using X-ray free-electron lasers for spectroscopy of molecular catalysts and metalloenzymes. <i>Nature Reviews Physics</i> , 2021, 3, 264-282.	26.6	60
44	The Codex of a Companion of the Prophet and the Qur'ān of the Prophet. <i>Arabica</i> , 2010, 57, 343-436.	0.1	57
45	Electronic Structural Changes of Mn in the Oxygen-Evolving Complex of Photosystem II during the Catalytic Cycle. <i>Inorganic Chemistry</i> , 2013, 52, 5642-5644.	4.0	57
46	Synchrotron-based chemical imaging reveals plumage patterns in a 150 million year old early bird. <i>Journal of Analytical Atomic Spectrometry</i> , 2013, 28, 1024.	3.0	55
47	Ultrafast non-radiative dynamics of atomically thin MoSe ₂ . <i>Nature Communications</i> , 2017, 8, 1745.	12.8	52
48	Archimedes brought to light. <i>Physics World</i> , 2007, 20, 39-42.	0.0	49
49	Stimulated X-Ray Emission Spectroscopy in Transition Metal Complexes. <i>Physical Review Letters</i> , 2018, 120, 133203.	7.8	48
50	Synchrotron imaging reveals bone healing and remodelling strategies in extinct and extant vertebrates. <i>Journal of the Royal Society Interface</i> , 2014, 11, 20140277.	3.4	47
51	Localized Electronic Structure of Nitrogenase FeMoco Revealed by Selenium K-Edge High Resolution X-ray Absorption Spectroscopy. <i>Journal of the American Chemical Society</i> , 2019, 141, 13676-13688.	13.7	47
52	High-resolution X-ray spectroscopy of rare events: a different look at local structure and chemistry. <i>Journal of Synchrotron Radiation</i> , 2001, 8, 199-203.	2.4	45
53	Simultaneous detection of electronic structure changes from two elements of a bifunctional catalyst using wavelength-dispersive X-ray emission spectroscopy and in situ electrochemistry. <i>Physical Chemistry Chemical Physics</i> , 2015, 17, 8901-8912.	2.8	45
54	Elemental characterisation of melanin in feathers via synchrotron X-ray imaging and absorption spectroscopy. <i>Scientific Reports</i> , 2016, 6, 34002.	3.3	44

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55	Phonon-Suppressed Auger Scattering of Charge Carriers in Defective Two-Dimensional Transition Metal Dichalcogenides. <i>Nano Letters</i> , 2019, 19, 6078-6086.	9.1	43
56	High-resolution structure of the photosynthetic Mn ₄ Ca catalyst from X-ray spectroscopy. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2008, 363, 1139-1147.	4.0	42
57	Ligand manipulation of charge transfer excited state relaxation and spin crossover in [Fe(2,2'-bipyridine) ₂ (CN) ₂]. <i>Structural Dynamics</i> , 2017, 4, 044030.	2.3	41
58	High-Resolution XFEL Structure of the Soluble Methane Monooxygenase Hydroxylase Complex with its Regulatory Component at Ambient Temperature in Two Oxidation States. <i>Journal of the American Chemical Society</i> , 2020, 142, 14249-14266.	13.7	41
59	Structural changes correlated with magnetic spin state isomorphism in the S ₂ state of the Mn ₄ CaO ₅ cluster in the oxygen-evolving complex of photosystem II. <i>Chemical Science</i> , 2016, 7, 5236-5248.	7.4	39
60	X-ray Emission Spectroscopy as an <i>in Situ</i> Diagnostic Tool for X-ray Crystallography of Metalloproteins Using an X-ray Free-Electron Laser. <i>Biochemistry</i> , 2018, 57, 4629-4637.	2.5	39
61	Simultaneous Observation of Carrier-Specific Redistribution and Coherent Lattice Dynamics in 2H-MoTe ₂ with Femtosecond Core-Level Spectroscopy. <i>ACS Nano</i> , 2020, 14, 15829-15840.	14.6	38
62	Electronic Structure of Chemically-Prepared Li _x Mn ₂ O ₄ Determined by Mn X-ray Absorption and Emission Spectroscopies. <i>Journal of Physical Chemistry B</i> , 2000, 104, 9587-9596.	2.6	36
63	Mn oxidation states in tri- and tetra-nuclear Mn compounds structurally relevant to photosystem II: Mn K-edge X-ray absorption and K α X-ray emission spectroscopy studies. <i>Physical Chemistry Chemical Physics</i> , 2004, 6, 4864.	2.8	35
64	Sensitivity of X-ray Core Spectroscopy to Changes in Metal Ligation: A Systematic Study of Low-Coordinate, High-Spin Ferrous Complexes. <i>Inorganic Chemistry</i> , 2013, 52, 6286-6298.	4.0	35
65	Photon-in photon-out hard X-ray spectroscopy at the Linac Coherent Light Source. <i>Journal of Synchrotron Radiation</i> , 2015, 22, 612-620.	2.4	35
66	Carbon speciation in organic fossils using 2D to 3D x-ray Raman multispectral imaging. <i>Science Advances</i> , 2019, 5, eaaw5019.	10.3	35
67	Soft x-ray absorption spectroscopy of metalloproteins and high-valent metal-complexes at room temperature using free-electron lasers. <i>Structural Dynamics</i> , 2017, 4, 054307.	2.3	34
68	Reabsorption of Soft X-Ray Emission at High X-Ray Free-Electron Laser Fluences. <i>Physical Review Letters</i> , 2014, 113, 153002.	7.8	33
69	Electronic Structure of Ni Complexes by X-ray Resonance Raman Spectroscopy (Resonant Inelastic) T_j ETQq1 1 0.784314 rgBJ /Overlo	13.7	31
70	Resonant inelastic X-ray scattering (RIXS) spectroscopy at the Mn K absorption pre-edge: a direct probe of the 3d orbitals. <i>Journal of Physics and Chemistry of Solids</i> , 2005, 66, 2163-2167.	4.0	31
71	Generation of High-Power High-Intensity Short X-Ray Free-Electron-Laser Pulses. <i>Physical Review Letters</i> , 2018, 120, 014801.	7.8	31
72	Carrier-Specific Femtosecond XUV Transient Absorption of PbI ₂ Reveals Ultrafast Nonradiative Recombination. <i>Journal of Physical Chemistry C</i> , 2017, 121, 27886-27893.	3.1	30

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73	Pheomelanin pigment remnants mapped in fossils of an extinct mammal. <i>Nature Communications</i> , 2019, 10, 2250.	12.8	30
74	Hard X-ray Photon-In Photon-Out Spectroscopy. <i>Synchrotron Radiation News</i> , 2009, 22, 12-16.	0.8	29
75	The mapping and differentiation of biological and environmental elemental signatures in the fossil remains of a 50 million year old bird. <i>Journal of Analytical Atomic Spectrometry</i> , 2015, 30, 627-634.	3.0	28
76	Noninvasive Synchrotron-Based X-ray Raman Scattering Discriminates Carbonaceous Compounds in Ancient and Historical Materials. <i>Analytical Chemistry</i> , 2017, 89, 10819-10826.	6.5	27
77	Optical Control of Non-Equilibrium Phonon Dynamics. <i>Nano Letters</i> , 2019, 19, 4981-4989.	9.1	27
78	Population inversion X-ray laser oscillator. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 15511-15516.	7.1	27
79	Structural Investigations of $\text{Li}_{1.5+x}\text{Na}_{0.5}\text{MnO}_{2.85}\text{I}_{0.12}$ Electrodes by Mn X-Ray Absorption Near Edge Spectroscopy. <i>Journal of the Electrochemical Society</i> , 2000, 147, 395.	2.9	24
80	Complementarity between high-energy photoelectron and L-edge spectroscopy for probing the electronic structure of 5d transition metal catalysts. <i>Physical Chemistry Chemical Physics</i> , 2010, 12, 5694.	2.8	23
81	Methods development for diffraction and spectroscopy studies of metalloenzymes at X-ray free-electron lasers. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2014, 369, 20130590.	4.0	23
82	Bacteria or melanosomes? A geochemical analysis of micro-bodies on a tadpole from the Oligocene Enspel Formation of Germany. <i>Palaeobiodiversity and Palaeoenvironments</i> , 2015, 95, 33-45.	1.5	23
83	X-ray free-electron laser studies reveal correlated motion during isopenicillin <i>N</i> synthase catalysis. <i>Science Advances</i> , 2021, 7, .	10.3	23
84	High-Resolution X-ray Emission Spectroscopy of Molybdenum Compounds. <i>Inorganic Chemistry</i> , 2005, 44, 2579-2581.	4.0	22
85	An assessment of multimodal imaging of subsurface text in mummy cartonnage using surrogate papyrus phantoms. <i>Heritage Science</i> , 2018, 6, .	2.3	22
86	Observation of Seeded Mn $K\alpha$ Stimulated X-Ray Emission Using Two-Color X-Ray Free-Electron Laser Pulses. <i>Physical Review Letters</i> , 2020, 125, 037404.	7.8	20
87	X-ray absorption spectroscopy using a self-seeded soft X-ray free-electron laser. <i>Optics Express</i> , 2016, 24, 22469.	3.4	19
88	A new synchrotron rapid-scanning X-ray fluorescence (SRS-XRF) imaging station at SSRL beamline 6-2. <i>Journal of Synchrotron Radiation</i> , 2018, 25, 1565-1573.	2.4	19
89	Characterization of charge transfer excitations in hexacyanomanganate(III) with Mn K-edge resonant inelastic x-ray scattering. <i>Journal of Chemical Physics</i> , 2010, 132, 134502.	3.0	18
90	The Mn Ca photosynthetic water-oxidation catalyst studied by simultaneous X-ray spectroscopy and crystallography using an X-ray free-electron laser. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2014, 369, 20130324.	4.0	17

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91	Emerging Approaches in Synchrotron Studies of Materials from Cultural and Natural History Collections. <i>Topics in Current Chemistry</i> , 2016, 374, 7.	5.8	17
92	Short-lived metal-centered excited state initiates iron-methionine photodissociation in ferrous cytochrome c. <i>Nature Communications</i> , 2021, 12, 1086.	12.8	17
93	XANES and EXAFS of dilute solutions of transition metals at XFELs. <i>Journal of Synchrotron Radiation</i> , 2019, 26, 1716-1724.	2.4	16
94	Probing a Silent Metal: A Combined X-ray Absorption and Emission Spectroscopic Study of Biologically Relevant Zinc Complexes. <i>Inorganic Chemistry</i> , 2020, 59, 13551-13560.	4.0	16
95	Bioturbating animals control the mobility of redox-sensitive trace elements in organic-rich mudstone. <i>Geology</i> , 2015, 43, 1007-1010.	4.4	14
96	Carrier-specific dynamics in 2H-MoTe ₂ observed by femtosecond soft x-ray absorption spectroscopy using an x-ray free-electron laser. <i>Structural Dynamics</i> , 2021, 8, 014501.	2.3	14
97	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
98	Double core hole valence-to-core x-ray emission spectroscopy: A theoretical exploration using time-dependent density functional theory. <i>Journal of Chemical Physics</i> , 2019, 151, 144114.	3.0	11
99	Near-Edge X-ray Absorption Fine Structure Spectroscopy of Heteroatomic Core-Hole States as a Probe for Nearly Indistinguishable Chemical Environments. <i>Journal of Physical Chemistry Letters</i> , 2020, 11, 556-561.	4.6	11
100	Pseudo-color enhanced x-ray fluorescence imaging of the Archimedes Palimpsest. <i>Proceedings of SPIE</i> , 2009, , .	0.8	10
101	Effects of x-ray free-electron laser pulse intensity on the Mn K _β ^{1,3} x-ray emission spectrum in photosystem II – A case study for metalloprotein crystals and solutions. <i>Structural Dynamics</i> , 2021, 8, 064302.	2.3	10
102	Reply to Wang et al.: Clear evidence of binding of O _x to the oxygen-evolving complex of photosystem II is best observed in the omit map. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, e2102342118.	7.1	7
103	XFEL serial crystallography reveals the room temperature structure of methyl-coenzyme M reductase. <i>Journal of Inorganic Biochemistry</i> , 2022, 230, 111768.	3.5	6
104	Stability of Pt-Modified Cu(111) in the Presence of Oxygen and Its Implication on the Overall Electronic Structure. <i>Journal of Physical Chemistry C</i> , 2013, 117, 16371-16380.	3.1	5
105	Geochemical Evidence of the Seasonality, Affinity and Pigmentation of <i>Solenopora jurassica</i> . <i>PLoS ONE</i> , 2015, 10, e0138305.	2.5	5
106	Decimeter-scale mapping of carbonate-controlled trace element distribution in Neoproterozoic cusped stromatolites. <i>Geochimica Et Cosmochimica Acta</i> , 2019, 261, 56-75.	3.9	5
107	A new Devonian euthycarcinoid reveals the use of different respiratory strategies during the marine-to-terrestrial transition in the myriapod lineage. <i>Royal Society Open Science</i> , 2020, 7, 201037.	2.4	5
108	Seasonal calibration of the end-Cretaceous Chicxulub impact event. <i>Scientific Reports</i> , 2021, 11, 23704.	3.3	5

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109	X-ray Raman Scattering: A Hard X-ray Probe of Complex Organic Systems. Chemical Reviews, 2022, 122, 12977-13005.	47.7	5
110	Photons, Folios, and Fossils: The X-ray Imaging and Spectroscopy Program of Ancient Materials at SSRL. Synchrotron Radiation News, 2019, 32, 22-28.	0.8	4
111	Resonant X-ray emission spectroscopy from broadband stochastic pulses at an X-ray free electron laser. Communications Chemistry, 2021, 4, .	4.5	4
112	Generation of intense phase-stable femtosecond hard X-ray pulse pairs. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, e2119616119.	7.1	4
113	Disentangling the chemistry of Australian plant exudates from a unique historical collection. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	7.1	4
114	Nouvelles spectroscopies Raman X du carbone pour les mat�riaux anciens. , 2019, , 22-25.	0.1	1
115	Chemical Mapping of Ancient Artifacts and Fossils with X-Ray Spectroscopy. , 2020, , 2393-2455.		0