

# Ralph Ernstorfer

## List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/796988/publications.pdf>

Version: 2024-02-01

115  
papers

6,339  
citations

70961

41  
h-index

64668

79  
g-index

116  
all docs

116  
docs citations

116  
times ranked

5751  
citing authors

#	ARTICLE	IF	CITATIONS
1	Delay in Photoemission. <i>Science</i> , 2010, 328, 1658-1662.	6.0	932
2	Optical-field-induced current in dielectrics. <i>Nature</i> , 2013, 493, 70-74.	13.7	592
3	The Formation of Warm Dense Matter: Experimental Evidence for Electronic Bond Hardening in Gold. <i>Science</i> , 2009, 323, 1033-1037.	6.0	294
4	Electronic acceleration of atomic motions and disordering in bismuth. <i>Nature</i> , 2009, 458, 56-59.	13.7	253
5	Quantum Chemical Calculations of the Influence of Anchor-Cum-Spacer Groups on Femtosecond Electron Transfer Times in Dye-Sensitized Semiconductor Nanocrystals. <i>Journal of Chemical Theory and Computation</i> , 2006, 2, 441-451.	2.3	249
6	Femtosecond electron diffraction: "making the molecular movie". <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2006, 364, 741-778.	1.6	176
7	Time-domain separation of optical properties from structural transitions in resonantly bonded materials. <i>Nature Materials</i> , 2015, 14, 991-995.	13.3	166
8	Electronically Driven Structure Changes of Si Captured by Femtosecond Electron Diffraction. <i>Physical Review Letters</i> , 2008, 100, 155504.	2.9	150
9	Direct observation of electron propagation and dielectric screening on the atomic length scale. <i>Nature</i> , 2015, 517, 342-346.	13.7	145
10	Electron-Phonon Coupling and Energy Flow in a Simple Metal beyond the Two-Temperature Approximation. <i>Physical Review X</i> , 2016, 6, .	2.8	134
11	Generation and Evolution of Spin-, Valley-, and Layer-Polarized Excited Carriers in Inversion-Symmetric $\langle mml:math \text{ xmlns:mml="http://www.w3.org/1998/Math/MathML"} \langle mml:mrow \rangle \langle mml:mrow \rangle \langle mml:mi \rangle WSe \langle /mml:mi \rangle \langle /mml:mrow \rangle \langle mml:mrow \rangle \langle mml:mn \rangle 2 \langle /mml:mn \rangle \langle /mml:mrow \rangle \langle /mml:math \rangle$ <i>Physical Review Letters</i> , 2016, 117, 277201.	2.9	129
12	Attosecond Time-Resolved Photoemission from Core and Valence States of Magnesium. <i>Physical Review Letters</i> , 2012, 109, 087401.	2.9	119
13	Role of Molecular Anchor Groups in Molecule-to-Semiconductor Electron Transfer. <i>Journal of Physical Chemistry B</i> , 2006, 110, 25383-25391.	1.2	102
14	Grating enhanced ponderomotive scattering for visualization and full characterization of femtosecond electron pulses. <i>Optics Express</i> , 2008, 16, 3334.	1.7	93
15	Nanofocused Plasmon-Driven Sub-10 fs Electron Point Source. <i>ACS Photonics</i> , 2016, 3, 611-619.	3.2	87
16	"Making the molecular movie": first frames. <i>Acta Crystallographica Section A: Foundations and Advances</i> , 2010, 66, 137-156.	0.3	84
17	Femtosecond electrons probing currents and atomic structure in nanomaterials. <i>Nature Communications</i> , 2014, 5, 5292.	5.8	82
18	Carrier Relaxation and Lattice Heating Dynamics in Silicon Revealed by Femtosecond Electron Diffraction. <i>Journal of Physical Chemistry B</i> , 2006, 110, 25308-25313.	1.2	81

#	ARTICLE	IF	CITATIONS
19	Excitation of longitudinal and transverse coherent acoustic phonons in nanometer free-standing films of (001) Si. <i>Physical Review B</i> , 2009, 79, .	1.1	81
20	Time- and angle-resolved photoemission spectroscopy of solids in the extreme ultraviolet at 500 kHz repetition rate. <i>Review of Scientific Instruments</i> , 2019, 90, 023104.	0.6	80
21	Ultrafast interfacial electron transfer from the excited state of anchored molecules into a semiconductor. <i>Progress in Surface Science</i> , 2007, 82, 355-377.	3.8	76
22	Beyond the molecular movie: Dynamics of bands and bonds during a photoinduced phase transition. <i>Science</i> , 2018, 362, 821-825.	6.0	76
23	Solid-state light-phase detector. <i>Nature Photonics</i> , 2014, 8, 214-218.	15.6	75
24	Momentum-Resolved View of Electron-Phonon Coupling in Multilayer $WSe_2$ . <i>Physical Review Letters</i> , 2017, 119, 036803.	2.9	74
25	Evidence of Large Polarons in Photoemission Band Mapping of the Perovskite Semiconductor $CsPbBr_3$ . <i>Physical Review Letters</i> , 2020, 124, 206402.	2.9	74
26	Femtosecond electron pulse characterization using laser ponderomotive scattering. <i>Optics Letters</i> , 2006, 31, 3517.	1.7	73
27	Time- and momentum-resolved photoemission studies using time-of-flight momentum microscopy at a free-electron laser. <i>Review of Scientific Instruments</i> , 2020, 91, 013109.	0.6	72
28	Absorption Spectra Related to Heterogeneous Electron Transfer Reactions: The Perylene $TiO_2$ System. <i>Journal of Physical Chemistry B</i> , 2005, 109, 9589-9595.	1.2	71
29	Compact femtosecond electron diffractometer with 100 keV electron bunches approaching the single-electron pulse duration limit. <i>Journal of Applied Physics</i> , 2015, 117, .	1.1	70
30	Escape dynamics of photoexcited electrons at catechol: $TiO_2(110)$ . <i>Physical Review B</i> , 2006, 74, .	1.1	68
31	Coherent femtosecond low-energy single-electron pulses for time-resolved diffraction and imaging: A numerical study. <i>Journal of Applied Physics</i> , 2012, 112, .	1.1	66
32	Primary and final charge separation in the nano-structured dye-sensitized electrochemical solar cell. <i>Coordination Chemistry Reviews</i> , 2004, 248, 1259-1270.	9.5	65
33	Sub-cycle optical control of current in a semiconductor: from the multiphoton to the tunneling regime. <i>Optica</i> , 2016, 3, 1358.	4.8	59
34	Sub-20 fs visible pulses with 750 nJ energy from a 100 kHz noncollinear optical parametric amplifier. <i>Optics Letters</i> , 2006, 31, 1289.	1.7	56
35	Direct measurement of key exciton properties: Energy, dynamics, and spatial distribution of the wave function. <i>Natural Sciences</i> , 2021, 1, e10010.	1.0	52
36	Revealing the role of electrons and phonons in the ultrafast recovery of charge density wave correlations in $TiSe_2$ . <i>Physical Review B</i> , 2016, 94, .	1.1	50

#	ARTICLE	IF	CITATIONS
37	Revealing Hidden Orbital Pseudospin Texture with Time-Reversal Dichroism in Photoelectron Angular Distributions. <i>Physical Review Letters</i> , 2020, 125, 216404.	2.9	50
38	500 kHz OPCPA delivering tunable sub-20 fs pulses with 15 W average power based on an all-ytterbium laser. <i>Optics Express</i> , 2015, 23, 1491.	1.7	49
39	Theory of exciton dynamics in time-resolved ARPES: Intra- and intervalley scattering in two-dimensional semiconductors. <i>Physical Review B</i> , 2019, 100, .	1.1	49
40	Machine learning on neutron and x-ray scattering and spectroscopies. <i>Chemical Physics Reviews</i> , 2021, 2, .	2.6	49
41	Direct visualization of charge distributions during femtosecond laser ablation of a Si (100) surface. <i>Physical Review B</i> , 2008, 78, .	1.1	42
42	Multidimensional Contrast Limited Adaptive Histogram Equalization. <i>IEEE Access</i> , 2019, 7, 165437-165447.	2.6	40
43	A molecular conveyor belt by controlled delivery of single molecules into ultrashort laser pulses. <i>Nature Physics</i> , 2012, 8, 238-242.	6.5	38
44	Ultrafast dynamical Lifshitz transition. <i>Science Advances</i> , 2021, 7, .	4.7	38
45	Terahertz Compression of Electron Pulses at a Planar Mirror Membrane. <i>Physical Review Applied</i> , 2019, 11, .	1.5	36
46	A quantitative comparison of time-of-flight momentum microscopes and hemispherical analyzers for time- and angle-resolved photoemission spectroscopy experiments. <i>Review of Scientific Instruments</i> , 2020, 91, 123112.	0.6	36
47	Coherent and incoherent structural dynamics in laser-excited antimony. <i>Physical Review B</i> , 2017, 95, .	1.1	35
48	Observation of an Excitonic Mott Transition Through Ultrafast Core- <i>cum</i> -Conduction Photoemission Spectroscopy. <i>Physical Review Letters</i> , 2020, 125, 096401.	2.9	35
49	Different orientations of large rigid organic chromophores at the rutileTiO <sub>2</sub> surface controlled by different binding geometries of specific anchor groups. <i>Physical Review B</i> , 2007, 75, .	1.1	33
50	Nonequilibrium charge-density-wave order beyond the thermal limit. <i>Nature Communications</i> , 2021, 12, 2499.	5.8	33
51	Ultrafast Evolution of the Excited-State Potential Energy Surface of $\text{TiO}_2$ Single Crystals Induced by Carrier Cooling. <i>Physical Review Letters</i> , 2013, 110, 067402.	2.9	32
52	Nuclear dynamics of singlet exciton fission in pentacene single crystals. <i>Science Advances</i> , 2021, 7, .	4.7	31
53	Femtosecond two-photon photoemission at 150 kHz utilizing two noncollinear optical parametric amplifiers for measuring ultrafast electron dynamics. <i>Applied Physics B: Lasers and Optics</i> , 2005, 80, 727-731.	1.1	30
54	A flexible apparatus for attosecond photoelectron spectroscopy of solids and surfaces. <i>Review of Scientific Instruments</i> , 2011, 82, 063104.	0.6	30

#	ARTICLE	IF	CITATIONS
55	Real-time observation of collective excitations in photoemission. <i>Physical Review B</i> , 2015, 91, .	1.1	30
56	Angle-resolved photoemission spectroscopy. <i>Nature Reviews Methods Primers</i> , 2022, 2, .	11.8	29
57	Femtosecond Transfer Dynamics of Photogenerated Electrons at a Surface Resonance of Reconstructed InP(100). <i>Physical Review Letters</i> , 2005, 94, 067601.	2.9	28
58	Anisotropic Nonequilibrium Lattice Dynamics of Black Phosphorus. <i>Nano Letters</i> , 2020, 20, 3728-3733.	4.5	27
59	Femtosecond electron diffraction: an atomic perspective of condensed phase dynamics. <i>Journal of Modern Optics</i> , 2007, 54, 905-922.	0.6	26
60	Accessing the Anisotropic Nonthermal Phonon Populations in Black Phosphorus. <i>Nano Letters</i> , 2021, 21, 6171-6178.	4.5	25
61	Pathway-Dependent Electron Transfer for Rod-Shaped Perylene-Derived Molecules Adsorbed in Nanometer-Size TiO <sub>2</sub> Cavities. <i>Journal of Physical Chemistry C</i> , 2007, 111, 13586-13594.	1.5	24
62	Unveiling the orbital texture of 1T-TiTe <sub>2</sub> using intrinsic linear dichroism in multidimensional photoemission spectroscopy. <i>Npj Quantum Materials</i> , 2021, 6, .	1.8	23
63	Dynamics of photoinduced electron transfer from adsorbed molecules into solids. <i>Applied Physics A: Materials Science and Processing</i> , 2007, 88, 481-495.	1.1	22
64	Lattice dynamics and ultrafast energy flow between electrons, spins, and phonons in a 3d ferromagnet. <i>Physical Review Research</i> , 2021, 3, .	1.3	21
65	Ultrafast Heat Flow in Heterostructures of Au Nanoclusters on Thin Films: Atomic Disorder Induced by Hot Electrons. <i>ACS Nano</i> , 2018, 12, 7710-7720.	7.3	18
66	Efficient First-Principles Methodology for the Calculation of the All-Phonon Inelastic Scattering in Solids. <i>Physical Review Letters</i> , 2021, 127, 207401.	2.9	18
67	Excited-state band mapping and momentum-resolved ultrafast population dynamics in In/Si(111) nanowires investigated with XUV-based time- and angle-resolved photoemission spectroscopy. <i>Physical Review B</i> , 2019, 99, .	1.1	17
68	Dynamics of electron scattering between bulk states and the C 1 surface state of InP(100). <i>Applied Physics A: Materials Science and Processing</i> , 2004, 78, 239-239.	1.1	16
69	Distance dependence of heterogeneous electron transfer probed in ultra-high vacuum with femtosecond transient absorption. <i>Research on Chemical Intermediates</i> , 2005, 31, 643-647.	1.3	16
70	Multiphonon diffuse scattering in solids from first principles: Application to layered crystals and two-dimensional materials. <i>Physical Review B</i> , 2021, 104, .	1.1	16
71	Two-photon photoemission as a probe of unoccupied and occupied surface states of InP(100). <i>Journal of Crystal Growth</i> , 2003, 248, 206-210.	0.7	15
72	Collinear generation of $\hat{\epsilon}$ ultrashort UV and XUV pulses. <i>Optics Express</i> , 2010, 18, 9173.	1.7	15

#	ARTICLE	IF	CITATIONS
73	Experimental basics for femtosecond electron diffraction studies. <i>Journal of Modern Optics</i> , 2007, 54, 923-942.	0.6	14
74	An open-source, end-to-end workflow for multidimensional photoemission spectroscopy. <i>Scientific Data</i> , 2020, 7, 442.	2.4	14
75	Addendum: Optical-field-induced current in dielectrics. <i>Nature</i> , 2014, 507, 386-387.	13.7	11
76	Intrinsic energy flow in laser-excited $3d$ ferromagnets. <i>Physical Review Research</i> , 2022, 4, .	1.3	11
77	Symmetry-guided nonrigid registration: The case for distortion correction in multidimensional photoemission spectroscopy. <i>Ultramicroscopy</i> , 2019, 202, 133-139.	0.8	10
78	Exchange-Striction Driven Ultrafast Nonthermal Lattice Dynamics in NiO. <i>Physical Review Letters</i> , 2021, 126, 147202.	2.9	10
79	Polarization-Modulated Angle-Resolved Photoemission Spectroscopy: Toward Circular Dichroism without Circular Photons and Bloch Wave-function Reconstruction. <i>Physical Review X</i> , 2022, 12, .	2.8	10
80	Probing the Energy Conversion Pathways between Light, Carriers, and Lattice in Real Time with Attosecond Core-Level Spectroscopy. <i>Physical Review X</i> , 2021, 11, .	2.8	10
81	Ultrafast Momentum-Resolved Hot Electron Dynamics in the Two-Dimensional Topological Insulator Bismuthene. <i>Nano Letters</i> , 2022, 22, 5420-5426.	4.5	9
82	Microelectrode for energy and current control of nanotip field electron emitters. <i>Applied Physics Letters</i> , 2013, 103, 213506.	1.5	8
83	Ultrafast rotational motions of supported nanoclusters probed by electron diffraction. <i>Nanoscale Horizons</i> , 2019, 4, 1164-1173.	4.1	8
84	Excited-state band structure mapping. <i>Physical Review B</i> , 2022, 105, .	1.1	8
85	Revealing momentum-dependent electron-phonon and phonon-phonon coupling in complex materials with ultrafast electron diffuse scattering. <i>MRS Bulletin</i> , 2021, 46, 731-737.	1.7	7
86	Ultrafast lattice dynamics and electron-phonon coupling in platinum extracted with a global fitting approach for time-resolved polycrystalline diffraction data. <i>Structural Dynamics</i> , 2021, 8, 064301.	0.9	6
87	Coherent Modulation of Quasiparticle Scattering Rates in a Photoexcited Charge-Density-Wave System. <i>Physical Review Letters</i> , 2022, 128, 026406.	2.9	5
88	Traversing Double-Well Potential Energy Surfaces: Photoinduced Concurrent Intralayer and Interlayer Structural Transitions in $XTe_2$ ( $X = Mo, W$ ). <i>ACS Nano</i> , 2022, 16, 11124-11135.	7.3	5
89	Wave-Mechanical Electron-Optical Modeling of Field-Emission Electron Sources. <i>Physical Review Applied</i> , 2021, 15, .	1.5	2
90	Ultrafast dynamics of photoinduced processes at surfaces and interfaces. , 2007, , 387-484.		2

#	ARTICLE	IF	CITATIONS
91	Dynamical suppression of Coulomb interaction and sub-fs jitter correction in electron pulse compression. <i>New Journal of Physics</i> , 2020, 22, 093004.	1.2	2
92	Influence of different anchor-bridge groups on electron transfer from the molecular chromophore perylene to the wide gap semiconductor TiO <sub>2</sub> . , 2006, , 295-298.		1
93	Generation of sub-20 fs Tunable Visible Pulses from a 100 kHz NOPA For Measuring Ultrafast Heterogeneous Electron Transfer. <i>Springer Series in Optical Sciences</i> , 2004, , 393-398.	0.5	1
94	Femtosecond Electron Diffraction Study on the Melting Dynamics of Gold. , 2006, , .		1
95	Femtosecond electron diffraction: atomic level "movies" of condensed phase dynamics. , 2005, , .		0
96	Dynamics of electron injection from the excited state of anchored organic molecules into rutile (110)TiO <sub>2</sub> . , 2006, 6325, 139.		0
97	Non-Thermal Collapse of the Silicon Lattice Observed with Femtosecond Electron Diffraction. , 2007, , LTuA3.		0
98	Photoinduced ultrafast interfacial electron transfer probed with two-photon-photoemission. , 2007, , .		0
99	Collinear Generation of Ultrashort LIV and XUV Pulses for Pump/probe Spectroscopy. <i>Materials Research Society Symposia Proceedings</i> , 2009, 1230, 1.	0.1	0
100	Direct Visualization of Electron Emission during Femtosecond Laser Ablation. <i>Springer Series in Chemical Physics</i> , 2009, , 693-695.	0.2	0
101	First attosecond pulse control by multilayer mirrors above 100 eV photon energy. , 2010, , .		0
102	Light-field control of electric current in metal-dielectric nano-circuits. , 2011, , .		0
103	Probing ultrafast electron dynamics in condensed matter with attosecond photoemission. , 2013, , .		0
104	Interband excitation and carrier relaxation as displacive driving force for coherent phonons. <i>EPJ Web of Conferences</i> , 2013, 41, 04021.	0.1	0
105	Competition Between Thermal and Non-Thermal Processes During Femtosecond Switching of Phase Change Materials. , 2014, , .		0
106	Dynamics of electron injection from the excited state of anchored molecules into semiconductors. , 2006, , .		0
107	Characterization of ultrashort electron pulses. , 2006, , .		0
108	Electron transfer from molecular chromophores to semiconductors probed with two-photon-photoemission. , 2006, , 299-303.		0

#	ARTICLE	IF	CITATIONS
109	Atomic View of the Photoinduced Collapse of Gold and Bismuth. Springer Series in Chemical Physics, 2009, , 113-115.	0.2	0
110	Dynamics of electron injection from the excited state of anchored molecules into semiconductors. Springer Series in Chemical Physics, 2007, , 270-272.	0.2	0
111	Electronically Driven Structural Dynamics of Si Resolved by Femtosecond Electron Diffraction. Springer Series in Chemical Physics, 2009, , 158-160.	0.2	0
112	Grating Enhanced Ponderomotive Scattering for Characterization of Femtosecond Electron Pulses. Springer Series in Chemical Physics, 2009, , 994-996.	0.2	0
113	Optical-field-induced current in dielectrics. , 2013, , .		0
114	Visualization of Photocurrents in Nanoobjects by Ultrafast Low-Energy Electron Point-Projection Imaging. , 2014, , .		0
115	Probing atomic motions accompanying singlet exciton fission in pentacene. , 2020, , .		0