

# Manfred Lein

## List of Publications by Year in descending order

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136  
papers

21,877  
citations

87888

38  
h-index

15732

125  
g-index

137  
all docs

137  
docs citations

137  
times ranked

40412  
citing authors

#	ARTICLE	IF	CITATIONS
1	Double-slit photoelectron interference in strong-field ionization of the neon dimer. Nature Communications, 2019, 10, 1.	12.8	15,301
2	Probing Proton Dynamics in Molecules on an Attosecond Time Scale. Science, 2006, 312, 424-427.	12.6	797
3	Role of the Intramolecular Phase in High-Harmonic Generation. Physical Review Letters, 2002, 88, 183903.	7.8	465
4	Molecular imaging using recolliding electrons. Journal of Physics B: Atomic, Molecular and Optical Physics, 2007, 40, R135-R173.	1.5	369
5	Interference effects in high-order harmonic generation with molecules. Physical Review A, 2002, 66, .	2.5	328
6	Attosecond Probing of Vibrational Dynamics with High-Harmonic Generation. Physical Review Letters, 2005, 94, 053004.	7.8	285
7	Intense-Field Double Ionization of Helium: Identifying the Mechanism. Physical Review Letters, 2000, 85, 4707-4710.	7.8	278
8	Exact Time-Dependent Exchange-Correlation Potentials for Strong-Field Electron Dynamics. Physical Review Letters, 2005, 94, 143003.	7.8	138
9	Electron diffraction in above-threshold ionization of molecules. Physical Review A, 2002, 66, .	2.5	134
10	Orientation dependence of high-order harmonic generation in molecules. Physical Review A, 2003, 67, .	2.5	118
11	Semiclassical two-step model for strong-field ionization. Physical Review A, 2016, 94, .	2.5	114
12	Electron correlation energies from scaled exchange-correlation kernels: Importance of spatial versus temporal nonlocality. Physical Review B, 2000, 61, 13431-13437.	3.2	113
13	Attosecond Probing of Nuclear Dynamics with Trajectory-Resolved High-Harmonic Spectroscopy. Physical Review Letters, 2017, 119, 033201.	7.8	111
14	Toward the description of van der Waals interactions within density functional theory. Journal of Computational Chemistry, 1999, 20, 12-22.	3.3	106
15	Even-Harmonic Generation due to Beyond-Born-Oppenheimer Dynamics. Physical Review Letters, 2001, 87, 103901.	7.8	105
16	Dynamic Two-Center Interference in High-Order Harmonic Generation from Molecules with Attosecond Nuclear Motion. Physical Review Letters, 2008, 101, 053901.	7.8	105
17	Strong-field approximation for harmonic generation in diatomic molecules. Physical Review A, 2006, 73, .	2.5	101
18	Strong-field ionization dynamics of a model H <sub>2</sub> molecule. Physical Review A, 2002, 65, .	2.5	97

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19	Role of orbital symmetry in high-order harmonic generation from aligned molecules. Physical Review A, 2004, 69, .	2.5	97
20	Reciprocal-Space-Trajectory Perspective on High-Harmonic Generation in Solids. Physical Review Letters, 2019, 122, 193901.	7.8	96
21	Emission times in high-order harmonic generation. Physical Review A, 2010, 81, .	2.5	91
22	Dynamics of valence-shell electrons and nuclei probed by strong-field holography and rescattering. Nature Communications, 2017, 8, 15651.	12.8	91
23	High-order harmonic generation in the presence of a resonance. Physical Review A, 2011, 84, .	2.5	82
24	High-order harmonic generation in laser-aligned molecules. Physical Review A, 2002, 65, .	2.5	78
25	Magnetic fields alter strong-field ionization. Nature Physics, 2019, 15, 1222-1226.	16.7	69
26	Determination of Ionization and Tunneling Times in High-Order Harmonic Generation. Physical Review Letters, 2013, 111, 043901.	7.8	68
27	Influence of Coulomb continuum wave functions in the description of high-order harmonic generation with H <sub>2</sub> <sup>+</sup> . Physical Review A, 2007, 75, .	2.5	59
28	Numerical verification of the theory of nonadiabatic tunnel ionization in strong circularly polarized laser fields. Journal of Physics B: Atomic, Molecular and Optical Physics, 2014, 47, 204016.	1.5	55
29	Isolated sub-fs XUV pulse generation in Mn plasma ablation. Optics Express, 2012, 20, 25239.	3.4	54
30	Direct Experimental Access to the Nonadiabatic Initial Momentum Offset upon Tunnel Ionization. Physical Review Letters, 2018, 121, 163202.	7.8	52
31	Theory of high-order harmonic generation from molecules by intense laser pulses. Journal of Physics B: Atomic, Molecular and Optical Physics, 2008, 41, 081002.	1.5	51
32	Synchronized pulses generated at 20â€¦eV and 90â€¦eV for attosecond pumpâ€“probe experiments. Nature Photonics, 2015, 9, 383-387.	31.4	48
33	Photoelectron circular dichroism of chiral molecules studied with a continuum-state-corrected strong-field approximation. Physical Review A, 2014, 89, .	2.5	47
34	Molecular Imaging Using High-Order Harmonic Generation and Above-Threshold Ionization. Physical Review Letters, 2012, 108, 043004.	7.8	44
35	Analysis of recombination in high-order harmonic generation in molecules. Physical Review A, 2005, 71, .	2.5	43
36	Theory of Subcycle Linear Momentum Transfer in Strong-Field Tunneling Ionization. Physical Review Letters, 2020, 125, 073202.	7.8	42

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37	Journeys from quantum optics to quantum technology. Progress in Quantum Electronics, 2017, 54, 19-45.	7.0	41
38	Interference in above-threshold-ionization electron distributions from molecules. Physical Review A, 2011, 83, .	2.5	40
39	High-order above-threshold ionization beyond the electric dipole approximation. Journal of Physics B: Atomic, Molecular and Optical Physics, 2018, 51, 094005.	1.5	39
40	Ultrahigh Harmonics from Laser-Assisted Ion-Atom Collisions. Physical Review Letters, 2003, 91, 243901.	7.8	37
41	Non-Hermitian Quantum Mechanics for High-Order Harmonic Generation Spectra. Journal of Physical Chemistry A, 2003, 107, 7181-7188.	2.5	37
42	Molecular orbital tomography using short laser pulses. Physical Review A, 2008, 78, .	2.5	37
43	Prediction of attosecond light pulses in the VUV range in a high-order-harmonic-generation regime. Physical Review A, 2013, 87, .	2.5	37
44	Signatures of Molecular Orbital Structure in Lateral Electron Momentum Distributions from Strong-Field Ionization. Physical Review Letters, 2015, 114, 103004.	7.8	37
45	Signatures of molecular structure in the strong-field response of aligned molecules. Journal of Modern Optics, 2005, 52, 465-478.	1.3	34
46	Quantitative theory for the lateral momentum distribution after strong-field ionization. Chemical Physics, 2013, 414, 69-72.	1.9	33
47	Preparing attosecond coherences by strong-field ionization. Physical Review A, 2016, 93, .	2.5	33
48	High-order above-threshold ionization beyond the electric dipole approximation: Dependence on the atomic and molecular structure. Physical Review A, 2018, 98, .	2.5	33
49	On the mechanism of strong-field double photoionization in the helium atom. Journal of Physics B: Atomic, Molecular and Optical Physics, 2000, 33, 433-442.	1.5	32
50	Influence of nuclear vibration on harmonic generation in molecules. Journal of Physics B: Atomic, Molecular and Optical Physics, 2006, 39, S437-S444.	1.5	32
51	Asymmetry of Wigner's time delay in a small molecule. Physical Review A, 2014, 89, .	2.5	32
52	Signatures of Electronic Structure in Bicircular High-Harmonic Spectroscopy. Physical Review Letters, 2017, 119, 203201.	7.8	31
53	Assessing different forms of the strong-field approximation for harmonic generation in molecules. Journal of Modern Optics, 2007, 54, 1039-1045.	1.3	30
54	Antibonding molecular orbitals under the influence of elliptically polarized intense light. Journal of Physics B: Atomic, Molecular and Optical Physics, 2003, 36, L155-L161.	1.5	29

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55	Trajectory-free ionization times in strong-field ionization. Physical Review A, 2018, 97, .	2.5	29
56	Electric Nondipole Effect in Strong-Field Ionization. Physical Review Letters, 2021, 126, 053202.	7.8	29
57	Enhanced Recollisions for Antisymmetric Molecular Orbitals in Intense Laser Fields. Physical Review Letters, 2006, 97, 143901.	7.8	28
58	Two-center interference and ellipticity in high-order harmonic generation from $H^{2+}$ Physical Review A, 2010, 82, .	2.5	28
59	Heteronuclear Limit of Strong-Field Ionization: Fragmentation of $HeH^{+}$ by Intense Ultrashort Laser Pulses. Physical Review Letters, 2018, 121, 073203.	7.8	28
60	Pulse-width and isotope effects in femtosecond-pulse strong-field dissociation of $H_2^{+}$ and $D_2^{+}$ . Physical Review A, 2000, 62, .	2.5	27
61	Discrete peaks in above-threshold double-ionization spectra. Physical Review A, 2001, 64, .	2.5	27
62	Effects of the Coulomb potential in interference patterns of strong-field holography with photoelectrons. Physical Review A, 2018, 97, .	2.5	27
63	Attoclock with counter-rotating bicircular laser fields. Physical Review A, 2019, 99, .	2.5	27
64	Mechanisms of ultrahigh-order harmonic generation. Physical Review A, 2005, 72, .	2.5	26
65	Ultrafast multiphoton forest fires and fractals in clusters and dielectrics. Journal of Physics B: Atomic, Molecular and Optical Physics, 2004, 37, L57-L67.	1.5	25
66	Effect of dressing on high-order harmonic generation in vibrating $H_2^{2+}$ Physical Review A, 2008, 77, .	2.5	25
67	High-order harmonic generation from diatomic molecules in an orthogonally polarized two-color laser field. Physical Review A, 2019, 100, .	2.5	25
68	Attosecond-Scale Streaking Methods for Strong-Field Ionization by Tailored Fields. Physical Review Letters, 2020, 124, 043202.	7.8	25
69	Kinematically complete experimental study of Compton scattering at helium atoms near the threshold. Nature Physics, 2020, 16, 756-760.	16.7	25
70	Probing Fano resonances with ultrashort pulses. New Journal of Physics, 2012, 14, 065003.	2.9	24
71	Analysis of electron trajectories with two-color strong-field ionization. Physical Review A, 2015, 92, .	2.5	24
72	Gouy's Phase Anomaly in Electron Waves Produced by Strong-Field Ionization. Physical Review Letters, 2020, 124, 153202.	7.8	23

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73	Vibrational-state and isotope dependence of high-order harmonic generation in water molecules. Physical Review A, 2010, 81, .	2.5	21
74	Strong-field photoelectron holography beyond the electric dipole approximation: A semiclassical analysis. Physical Review A, 2019, 100, .	2.5	21
75	High-order above-threshold ionization in stretched molecules. Physical Review A, 2006, 74, .	2.5	20
76	High-order-harmonic generation from dense water microdroplets. Physical Review A, 2013, 87, .	2.5	20
77	Characterization of nuclear wave packets describing molecular photodissociation. Journal of Chemical Physics, 2000, 113, 3609-3614.	3.0	18
78	Explanation for the smoothness of the phase in molecular high-order harmonic generation. Physical Review A, 2009, 80, .	2.5	18
79	Adiabaticity in the lateral electron-momentum distribution after strong-field ionization. Physical Review A, 2012, 85, .	2.5	18
80	Nonadiabatic Strong Field Ionization of Atomic Hydrogen. Physical Review Letters, 2021, 127, 273201.	7.8	17
81	Phase-space analysis of double ionization. Optics Express, 2001, 8, 411.	3.4	16
82	Numerical aspects of real-space approaches to strong-field electron dynamics. Journal of Computational Physics, 2007, 226, 89-103.	3.8	16
83	Strong-field ionization in time-dependent density functional theory. Europhysics Letters, 2008, 84, 43001.	2.0	16
84	Multiconfiguration time-dependent Hartree approach for electron-nuclear correlation in strong laser fields. Physical Review A, 2010, 81, .	2.5	16
85	Streaking analysis of strong-field ionisation. Journal of Modern Optics, 2011, 58, 1188-1194.	1.3	16
86	Extracting trajectory information from two-color strong-field ionization. Journal of Modern Optics, 2017, 64, 981-986.	1.3	16
87	Strong-field polarizability-enhanced dissociative ionization. Physical Review A, 2018, 98, .	2.5	16
88	High-order harmonic generation in vibrating molecules. Journal of Modern Optics, 2006, 53, 113-124.	1.3	15
89	Multielectron polarization effects in strong-field ionization: Narrowing of momentum distributions and imprints in interference structures. Physical Review A, 2018, 98, .	2.5	15
90	Magnetic-Field Effect in High-Order Above-Threshold Ionization. Physical Review Letters, 2022, 128, 023201.	7.8	15

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91	Quantum Wave-Packet Dynamics in Spin-Coupled Vibronic States. Journal of Physical Chemistry A, 2012, 116, 11427-11433.	2.5	14
92	Nondipole modification of the ac Stark effect in above-threshold ionization. Physical Review A, 2021, 104, .	2.5	14
93	Electrons get real. Nature, 2012, 485, 313-314.	27.8	13
94	Semiclassical two-step model with quantum input: Quantum-classical approach to strong-field ionization. Physical Review A, 2019, 100, .	2.5	12
95	Investigations of electron wave-packet dynamics and high-order harmonic generation in laser-aligned molecules. Journal of Modern Optics, 2003, 50, 561-577.	1.3	11
96	High-harmonic generation with combined infrared and extreme ultraviolet fields. Journal of Modern Optics, 2014, 61, 845-850.	1.3	11
97	Velocity map imaging of scattering dynamics in orthogonal two-color fields. Journal of Physics B: Atomic, Molecular and Optical Physics, 2018, 51, 015001.	1.5	11
98	Hole-assisted energy deposition in dielectrics and clusters in the multiphoton regime. Journal of Modern Optics, 2005, 52, 1019-1030.	1.3	10
99	Control of recollision wave packets for molecular orbital tomography using short laser pulses. Journal of Physics B: Atomic, Molecular and Optical Physics, 2008, 41, 074009.	1.5	10
100	Deep learning for retrieval of the internuclear distance in a molecule from interference patterns in photoelectron momentum distributions. Physical Review A, 2022, 105, .	2.5	10
101	Strongly enhanced high-harmonic generation via antisymmetric ionic states. Journal of Physics B: Atomic, Molecular and Optical Physics, 2007, 40, F113-F119.	1.5	8
102	Probing dynamical symmetries by bicircular high-order harmonic spectroscopy beyond the Born-Oppenheimer approximation. Physical Review A, 2020, 101, .	2.5	8
103	Probing fast nuclear wavepackets in light molecules: monitoring structural rearrangement on an attosecond timescale. Journal of Modern Optics, 2007, 54, 1011-1017.	1.3	7
104	Adiabatic approximation within time-dependent density functional theory using inversion of the ground-state spin-density Kohn-Sham formalism. Chemical Physics, 2011, 391, 143-146.	1.9	7
105	Positioning of Bound Electron Wave Packets in Molecules Revealed by High-Harmonic Spectroscopy. Journal of Physical Chemistry A, 2012, 116, 2723-2727.	2.5	7
106	Revealing the Microscopic Real-Space Excursion of a Laser-Driven Electron. Physical Review X, 2016, 6, .	8.9	7
107	Dissociation and ionization of HeH <sup>+</sup> in sub-cycle-controlled intense two-color fields. Journal of Physics B: Atomic, Molecular and Optical Physics, 2020, 53, 174001.	1.5	7
108	Attoclock with bicircular laser fields as a probe of velocity-dependent tunnel-exit positions. Journal of Physics B: Atomic, Molecular and Optical Physics, 2021, 54, 164001.	1.5	7

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109	Control of the Geometric Phase and Nonequivalence between Geometric-Phase Definitions in the Adiabatic Limit. <i>Physical Review Letters</i> , 2022, 128, 030401.	7.8	7
110	High-order harmonic generation in vibrating two-electron molecules. <i>Chemical Physics</i> , 2009, 366, 54-57.	1.9	6
111	Intrinsic channel closing in strong-field single ionization of $H^+$ . <i>Physical Review A</i> , 2008, 77, .	2.5	5
112	The time-scale of nonlinear events driven by strong fields: can one control the spin coupling before ionization runs over?. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2014, 47, 124027.	1.5	5
113	Semiclassical two-step model for ionization of the hydrogen molecule by a strong laser field. <i>European Physical Journal D</i> , 2019, 73, 1.	1.3	5
114	Laser-Driven Anharmonic Oscillator: Ground-State Dissociation of the Helium Hydride Molecular Ion by Midinfrared Pulses. <i>Physical Review Letters</i> , 2021, 127, 043202.	7.8	5
115	Retrieval of the amplitude and phase of the dipole matrix element by attosecond electron-wave-packet interferometry. <i>Physical Review A</i> , 2013, 87, .	2.5	4
116	Revealing Coulomb time shifts in high-order harmonic generation by frequency-dependent streaking. <i>Physical Review A</i> , 2022, 105, .	2.5	4
117	Tomographic Imaging of Molecular Orbitals in Length and Velocity Form. <i>AIP Conference Proceedings</i> , 2007, , .	0.4	3
118	Absorbing boundaries in the mean-field approximation. <i>Physical Review A</i> , 2010, 82, .	2.5	3
119	High-order harmonic generation in laser aligned molecules. , 0, , .		2
120	Enhanced recollision dynamics via the combination of antisymmetric wave functions and beyond-dipole effects. <i>Journal of Modern Optics</i> , 2007, 54, 1911-1926.	1.3	2
121	Time-dependent density functional theory for strong-field ionization by circularly polarized pulses. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2017, 50, 055601.	1.5	2
122	Extreme-ultraviolet frequency combs from high-order harmonic generation with few-cycle pulse trains. <i>Physical Review A</i> , 2017, 95, .	2.5	2
123	Stabilizing isolated attosecond pulse formation by dispersion tuning. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2018, 35, A22.	2.1	2
124	Probing Molecular Structure and Dynamics by Laser-Driven Electron Recollisions. <i>Springer Series in Optical Sciences</i> , 2008, , 209-224.	0.7	1
125	Orbital Functionals in Static and Time-Dependent Density Functional Theory. , 1999, , 393-427.		1
126	Investigations of electron wave-packet dynamics and high-order harmonic generation in laser-aligned molecules. <i>Journal of Modern Optics</i> , 2003, 50, 561-577.	1.3	1



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127	Probing Attosecond Dynamics by Laser Driven Electron Recollisions. AIP Conference Proceedings, 2006, , .	0.4	0
128	Probing proton dynamics in molecules on an attosecond timescale. , 2007, , .		0
129	Probing proton dynamics in molecules on an attosecond timescale. , 2007, , .		0
130	Influence of molecular vibration on enhancements in high-order above-threshold ionization of hydrogen molecules. Journal of Modern Optics, 2008, 55, 2631-2641.	1.3	0
131	Sub-fs pulse generation and characterisation in the VUV. , 2013, , .		0
132	Isolated attosecond pulse generation in transition metal ablation plumes. , 2013, , .		0
133	Non-perturbative semiclassical model for strong-field ionization. Journal of Physics: Conference Series, 2017, 875, 022019.	0.4	0
134	Minimizing attosecond CEP jitter by carrier envelope phase tuning. EPJ Web of Conferences, 2019, 205, 02011.	0.3	0
135	Heteronuclear Limit of Strong-Field Ionization: Laser-Induced Fragmentation of HeH+. , 2019, , .		0
136	Theory of Subcycle Linear Momentum Transfer in Strong-Field Tunneling Ionization. , 2020, , .		0