

Olga Smirnova

List of Publications by Year in descending order

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102
papers

7,291
citations

57719

44
h-index

54882

84
g-index

105
all docs

105
docs citations

105
times ranked

2769
citing authors

#	ARTICLE	IF	CITATIONS
1	High harmonic interferometry of multi-electron dynamics in molecules. <i>Nature</i> , 2009, 460, 972-977.	13.7	960
2	Time-Resolved Holography with Photoelectrons. <i>Science</i> , 2011, 331, 61-64.	6.0	483
3	Resolving the time when an electron exits a tunnelling barrier. <i>Nature</i> , 2012, 485, 343-346.	13.7	414
4	Measuring and controlling the birth of attosecond XUV pulses. <i>Nature Physics</i> , 2006, 2, 781-786.	6.5	335
5	Anatomy of strong field ionization. <i>Journal of Modern Optics</i> , 2005, 52, 165-184.	0.6	267
6	Interpreting attoclock measurements of tunnelling times. <i>Nature Physics</i> , 2015, 11, 503-508.	6.5	256
7	Probing molecular chirality on a sub-femtosecond timescale. <i>Nature Physics</i> , 2015, 11, 654-658.	6.5	219
8	Reading diffraction images in strong field ionization of diatomic molecules. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2004, 37, L243-L250.	0.6	206
9	High Harmonic Spectroscopy of Multichannel Dynamics in Strong-Field Ionization. <i>Physical Review Letters</i> , 2010, 104, 213601.	2.9	197
10	Nonadiabatic tunneling in circularly polarized laser fields: Physical picture and calculations. <i>Physical Review A</i> , 2011, 84, .	1.0	187
11	High-harmonic spectroscopy of ultrafast many-body dynamics in strongly correlated systems. <i>Nature Photonics</i> , 2018, 12, 266-270.	15.6	156
12	Analytical solutions for strong field-driven atomic and molecular one- and two-electron continua and applications to strong-field problems. <i>Physical Review A</i> , 2008, 77, .	1.0	151
13	Photoexcitation circular dichroism in chiral molecules. <i>Nature Physics</i> , 2018, 14, 484-489.	6.5	145
14	Synthetic chiral light for efficient control of chiral light-matter interaction. <i>Nature Photonics</i> , 2019, 13, 866-871.	15.6	132
15	Topological strong-field physics on sub-laser-cycle timescale. <i>Nature Photonics</i> , 2019, 13, 849-854.	15.6	132
16	Time-dependent analytical R -matrix approach for strong-field dynamics. I. One-electron systems. <i>Physical Review A</i> , 2012, 86, .	1.0	109
17	Attosecond Circular Dichroism Spectroscopy of Polyatomic Molecules. <i>Physical Review Letters</i> , 2009, 102, 063601.	2.9	104
18	How Accurate Is the Attosecond Streak Camera?. <i>Physical Review Letters</i> , 2011, 107, 213605.	2.9	103

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19	Electron spin polarization in strong-field ionization of xenon atoms. <i>Nature Photonics</i> , 2016, 10, 526-528.	15.6	103
20	Attosecond spectral singularities in solid-state high-harmonic generation. <i>Nature Photonics</i> , 2020, 14, 183-187.	15.6	94
21	Scaling Laws for Photoelectron Holography in the Midinfrared Wavelength Regime. <i>Physical Review Letters</i> , 2012, 109, 013002.	2.9	93
22	Ultrafast preparation and detection of ring currents in single atoms. <i>Nature Physics</i> , 2018, 14, 701-704.	6.5	93
23	Attosecond tunnelling interferometry. <i>Nature Physics</i> , 2015, 11, 815-819.	6.5	92
24	Strong-field control and spectroscopy of attosecond electron-hole dynamics in molecules. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2009, 106, 16556-16561.	3.3	90
25	Nonadiabatic tunneling in circularly polarized laser fields. II. Derivation of formulas. <i>Physical Review A</i> , 2013, 87, .	1.0	89
26	Spin-polarized electrons produced by strong-field ionization. <i>Physical Review A</i> , 2013, 88, .	1.0	88
27	Revealing molecular structure and dynamics through high-order harmonic generation driven by mid-IR fields. <i>Physical Review A</i> , 2010, 81, .	1.0	84
28	Time-dependent analytical $\langle R \rangle$ -matrix approach for strong-field dynamics. II. Many-electron systems. <i>Physical Review A</i> , 2012, 86, .	1.0	83
29	Imaging the Kramers-Henneberger atom. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011, 108, 16906-16911.	3.3	79
30	Nonadiabatic Coulomb effects in strong-field ionization in circularly polarized laser fields. <i>Physical Review A</i> , 2013, 88, .	1.0	73
31	Coulomb laser coupling in laser-assisted photoionization and molecular tomography. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2007, 40, F197-F206.	0.6	66
32	Extension of high harmonic spectroscopy in molecules by a 1300 nm laser field. <i>Optics Express</i> , 2010, 18, 3174.	1.7	61
33	Generalized perspective on chiral measurements without magnetic interactions. <i>Physical Review A</i> , 2018, 98, .	1.0	61
34	Lightwave control of topological properties in 2D materials for sub-cycle and non-resonant valley manipulation. <i>Nature Photonics</i> , 2020, 14, 728-732.	15.6	61
35	Anatomy of strong field ionization II: to dress or not to dress?. <i>Journal of Modern Optics</i> , 2007, 54, 1019-1038.	0.6	58
36	Coulomb and polarization effects in laser-assisted XUV ionization. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2006, 39, S323-S339.	0.6	56

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37	Ultrasensitive Chiral Spectroscopy by Dynamical Symmetry Breaking in High Harmonic Generation. <i>Physical Review X</i> , 2019, 9, .	2.8	55
38	The role of the Kramersâ€“Henneberger atom in the higher-order Kerr effect. <i>New Journal of Physics</i> , 2013, 15, 083012.	1.2	54
39	Opportunities for chiral discrimination using high harmonic generation in tailored laser fields. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2015, 48, 234005.	0.6	53
40	Roadmap on photonic, electronic and atomic collision physics: I. Lightâ€“matter interaction. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2019, 52, 171001.	0.6	52
41	Multidimensional high harmonic spectroscopy of polyatomic molecules: detecting sub-cycle laser-driven hole dynamics upon ionization in strong mid-IR laser fields. <i>Faraday Discussions</i> , 2016, 194, 369-405.	1.6	51
42	Quantum Coherence in the Time-Resolved Auger Measurement. <i>Physical Review Letters</i> , 2003, 91, 253001.	2.9	48
43	Time-resolving electron-core dynamics during strong-field ionization in circularly polarized fields. <i>Physical Review A</i> , 2013, 88, .	1.0	45
44	Attosecond correlation dynamics during electron tunnelling from molecules. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2010, 43, 161002.	0.6	44
45	Control of attosecond light polarization in two-color bicircular fields. <i>Physical Review A</i> , 2018, 97, .	1.0	42
46	Exchange and polarization effect in high-order harmonic imaging of molecular structures. <i>Physical Review A</i> , 2010, 82, .	1.0	41
47	Spatial molecular interferometry via multidimensional high-harmonic spectroscopy. <i>Nature Photonics</i> , 2020, 14, 188-194.	15.6	38
48	An R-matrix approach to electronâ€“photonâ€“molecule collisions: photoelectron angular distributions from aligned molecules. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2014, 47, 215005.	0.6	35
49	Opportunities for detecting ring currents using an attoclock setup. <i>Physical Review A</i> , 2015, 92, .	1.0	34
50	Attosecond control of spin polarization in electronâ€“ion recollision driven by intense tailored fields. <i>New Journal of Physics</i> , 2017, 19, 073007.	1.2	34
51	Amplification of intense light fields by nearly free electrons. <i>Nature Physics</i> , 2018, 14, 695-700.	6.5	33
52	Observation of light-driven band structure via multiband high-harmonic spectroscopy. <i>Nature Photonics</i> , 2022, 16, 428-432.	15.6	30
53	Challenges and opportunities in attosecond and XFEL science. <i>Nature Reviews Physics</i> , 2019, 1, 107-111.	11.9	29
54	Sub-cycle valleytronics: control of valley polarization using few-cycle linearly polarized pulses. <i>Optica</i> , 2021, 8, 277.	4.8	28

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55	Enantio-sensitive unidirectional light bending. <i>Nature Communications</i> , 2021, 12, 3951.	5.8	28
56	<i>In Situ</i> Generation of High-Energy Spin-Polarized Electrons in a Beam-Driven Plasma Wakefield Accelerator. <i>Physical Review Letters</i> , 2021, 126, 054801.	2.9	28
57	Kapitza-Dirac Diffraction without Standing Waves: Diffraction without a Grating?. <i>Physical Review Letters</i> , 2004, 92, 223601.	2.9	26
58	Coulomb time delays in high harmonic generation. <i>New Journal of Physics</i> , 2017, 19, 023012.	1.2	25
59	Chiral dichroism in bi-elliptical high-order harmonic generation. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2018, 51, 06LT01.	0.6	25
60	Opportunities for sub-laser-cycle spectroscopy in condensed phase. <i>Chemical Physics</i> , 2013, 414, 3-9.	0.9	23
61	Hole dynamics and spin currents after ionization in strong circularly polarized laser fields. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2014, 47, 204020.	0.6	23
62	Propensity rules in photoelectron circular dichroism in chiral molecules. I. Chiral hydrogen. <i>Physical Review A</i> , 2019, 99, .	1.0	23
63	Multidimensional high harmonic spectroscopy. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2015, 48, 174006.	0.6	22
64	Strong-field control and enhancement of chiral response in bi-elliptical high-order harmonic generation: an analytical model. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2018, 51, 124002.	0.6	22
65	Ultrafast optical rotation in chiral molecules with ultrashort and tightly focused beams. <i>Optica</i> , 2021, 8, 1243.	4.8	22
66	Use of Electron Correlation to Make Attosecond Measurements without Attosecond Pulses. <i>Physical Review Letters</i> , 2005, 94, 213001.	2.9	20
67	Towards a one-femtosecond film. <i>Nature Physics</i> , 2010, 6, 159-160.	6.5	20
68	Propensity rules in photoelectron circular dichroism in chiral molecules. II. General picture. <i>Physical Review A</i> , 2019, 99, .	1.0	19
69	<i>Ab initio</i> verification of the analytical R-matrix theory for strong field ionization. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2014, 47, 204021.	0.6	18
70	The role of multichannel effects in the photoionization of the NO ₂ molecule: an <i>ab initio</i> R-matrix study. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2015, 48, 245101.	0.6	17
71	Spin-orbit Larmor clock for ionization times in one-photon and strong-field regimes. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2015, 48, 234002.	0.6	16
72	Multidimensional high harmonic spectroscopy: a semi-classical perspective on measuring multielectron rearrangement upon ionization. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2013, 46, 171001.	0.6	15

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73	Reconstruction of the time-dependent electronic wave packet arising from molecular autoionization. <i>Science Advances</i> , 2018, 4, eaat3962.	4.7	14
74	A look under the tunnelling barrier via attosecond-gated interferometry. <i>Nature Photonics</i> , 2022, 16, 304-310.	15.6	14
75	Attosecond recorder of the polarization state of light. <i>Nature Communications</i> , 2018, 9, 850.	5.8	11
76	Strong chiral response in non-collinear high harmonic generation driven by purely electric-dipole interactions. <i>Optics Express</i> , 2022, 30, 4659.	1.7	11
77	Enantiosensitive steering of free-induction decay. <i>Science Advances</i> , 2022, 8, .	4.7	11
78	Electron correlations and pre-collision in the re-collision picture of high harmonic generation. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2018, 51, 134006.	0.6	10
79	General theory of photoexcitation induced photoelectron circular dichroism. <i>Journal of Chemical Physics</i> , 2018, 149, 064104.	1.2	10
80	Attosecond prints of electrons. <i>Nature</i> , 2010, 466, 701-702.	13.7	9
81	Role of electronic correlations in photoionization of NO ₂ in the vicinity of the ² A ₁ / ² B ₂ conical intersection. <i>Physical Chemistry Chemical Physics</i> , 2017, 19, 19673-19682.	1.3	9
82	Disentangling enantiosensitivity from dichroism using bichromatic fields. <i>Physical Chemistry Chemical Physics</i> , 2022, 24, 7264-7273.	1.3	9
83	Signatures of attosecond electronicâ€“nuclear dynamics in the one-photon ionization of molecular hydrogen: analytical model versus <i>ab initio</i> calculations. <i>New Journal of Physics</i> , 2015, 17, 053011.	1.2	8
84	Looking inside the tunnelling barrier: I. Strong field ionisation from orbitals with high angular momentum in circularly polarised fields. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2018, 51, 174001.	0.6	7
85	Direct measurement of Coulomb-laser coupling. <i>Scientific Reports</i> , 2021, 11, 495.	1.6	6
86	Looking inside the tunnelling barrier: II. Co- and counter-rotating electrons at the â€“tunnelling exitâ€™. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2018, 51, 174002.	0.6	5
87	Propensity rules for photoelectron circular dichroism in strong field ionization of chiral molecules. <i>Physical Chemistry Chemical Physics</i> , 2022, 24, 5720-5728.	1.3	5
88	Inducing Enantiosensitive Permanent Multipoles in Isotropic Samples with Two-Color Fields. , 2021, , 335-352.		3
89	A geometric approach to decoding molecular structure and dynamics from photoionization of isotropic samples. <i>Physical Chemistry Chemical Physics</i> , 2022, 24, 13605-13615.	1.3	3
90	Time reconstruction of harmonic emission in molecules near the ionization threshold. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2014, 47, 241001.	0.6	1

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91	Nasca patterning in the microworld. Nature Photonics, 2020, 14, 527-528.	15.6	1
92	Highly spin-polarized multi-GeV electron beams generated by single-species plasma photocathodes. Physical Review Research, 2022, 4, .	1.3	1
93	Ultrafast Optical Rotation: Highly Sensitive Enantio-Discrimination with Controlled Few-Cycle Optical Pulses. , 2021, , .		0
94	Ultrafast Optical Rotation for Extremely Sensitive Enantio-Discrimination. , 2021, , .		0
95	Enantio-sensitive unidirectional light bending. , 2021, , .		0
96	Ultrafast All-Optical Detection of Chiral Degrees of Freedom by Symmetry Breaking High Harmonic Spectroscopy. , 2019, , .		0
97	Controlled Optical Waveforms for Extremely Efficient Chiral Discrimination on Ultrafast Time Scales. , 2020, , .		0
98	Structuring Light's Chirality: LR ≠ RL. , 2020, , .		0
99	Structuring light's chirality to induce enantio-sensitive light bending. , 2021, , .		0
100	Ultrafast Optical Rotation in Chiral Molecules with Ultrashort and Tightly Focused Beams. , 2021, , .		0
101	Lightwave Control of Topological Properties in 2D Materials for Sub-Cycle and Non-Resonant Valley Manipulation. , 2021, , .		0
102	Ultrafast optical rotation in chiral molecules with ultrashort and tightly focused beams. , 2021, , .		0