

Olga Smirnova

List of Publications by Year in descending order

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102
papers

7,291
citations

57758

44
h-index

54911

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. Nature, 2009, 460, 972-977.	27.8	960
2	Time-Resolved Holography with Photoelectrons. Science, 2011, 331, 61-64.	12.6	483
3	Resolving the time when an electron exits a tunnelling barrier. Nature, 2012, 485, 343-346.	27.8	414
4	Measuring and controlling the birth of attosecond XUV pulses. Nature Physics, 2006, 2, 781-786.	16.7	335
5	Anatomy of strong field ionization. Journal of Modern Optics, 2005, 52, 165-184.	1.3	267
6	Interpreting attoclock measurements of tunnelling times. Nature Physics, 2015, 11, 503-508.	16.7	256
7	Probing molecular chirality on a sub-femtosecond timescale. Nature Physics, 2015, 11, 654-658.	16.7	219
8	Reading diffraction images in strong field ionization of diatomic molecules. Journal of Physics B: Atomic, Molecular and Optical Physics, 2004, 37, L243-L250.	1.5	206
9	High Harmonic Spectroscopy of Multichannel Dynamics in Strong-Field Ionization. Physical Review Letters, 2010, 104, 213601.	7.8	197
10	Nonadiabatic tunneling in circularly polarized laser fields: Physical picture and calculations. Physical Review A, 2011, 84, .	2.5	187
11	High-harmonic spectroscopy of ultrafast many-body dynamics in strongly correlated systems. Nature Photonics, 2018, 12, 266-270.	31.4	156
12	Analytical solutions for strong field-driven atomic and molecular one- and two-electron continua and applications to strong-field problems. Physical Review A, 2008, 77, .	2.5	151
13	Photoexcitation circular dichroism in chiral molecules. Nature Physics, 2018, 14, 484-489.	16.7	145
14	Synthetic chiral light for efficient control of chiral light-matter interaction. Nature Photonics, 2019, 13, 866-871.	31.4	132
15	Topological strong-field physics on sub-laser-cycle timescale. Nature Photonics, 2019, 13, 849-854.	31.4	132
16	Time-dependent analytical R -matrix approach for strong-field dynamics. I. One-electron systems. Physical Review A, 2012, 86, .	2.5	109
17	Attosecond Circular Dichroism Spectroscopy of Polyatomic Molecules. Physical Review Letters, 2009, 102, 063601.	7.8	104
18	How Accurate Is the Attosecond Streak Camera?. Physical Review Letters, 2011, 107, 213605.	7.8	103

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19	Electron spin polarization in strong-field ionization of xenon atoms. <i>Nature Photonics</i> , 2016, 10, 526-528.	31.4	103
20	Attosecond spectral singularities in solid-state high-harmonic generation. <i>Nature Photonics</i> , 2020, 14, 183-187.	31.4	94
21	Scaling Laws for Photoelectron Holography in the Midinfrared Wavelength Regime. <i>Physical Review Letters</i> , 2012, 109, 013002.	7.8	93
22	Ultrafast preparation and detection of ring currents in single atoms. <i>Nature Physics</i> , 2018, 14, 701-704.	16.7	93
23	Attosecond tunnelling interferometry. <i>Nature Physics</i> , 2015, 11, 815-819.	16.7	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.	7.1	90
25	Nonadiabatic tunneling in circularly polarized laser fields. II. Derivation of formulas. <i>Physical Review A</i> , 2013, 87, .	2.5	89
26	Spin-polarized electrons produced by strong-field ionization. <i>Physical Review A</i> , 2013, 88, .	2.5	88
27	Revealing molecular structure and dynamics through high-order harmonic generation driven by mid-IR fields. <i>Physical Review A</i> , 2010, 81, .	2.5	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, .	2.5	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.	7.1	79
30	Nonadiabatic Coulomb effects in strong-field ionization in circularly polarized laser fields. <i>Physical Review A</i> , 2013, 88, .	2.5	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.	1.5	66
32	Extension of high harmonic spectroscopy in molecules by a 1300 nm laser field. <i>Optics Express</i> , 2010, 18, 3174.	3.4	61
33	Generalized perspective on chiral measurements without magnetic interactions. <i>Physical Review A</i> , 2018, 98, .	2.5	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.	31.4	61
35	Anatomy of strong field ionization II: to dress or not to dress?. <i>Journal of Modern Optics</i> , 2007, 54, 1019-1038.	1.3	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.	1.5	56

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37	Ultrasensitive Chiral Spectroscopy by Dynamical Symmetry Breaking in High Harmonic Generation. <i>Physical Review X</i> , 2019, 9, .	8.9	55
38	The role of the Kramersâ€“Henneberger atom in the higher-order Kerr effect. <i>New Journal of Physics</i> , 2013, 15, 083012.	2.9	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.	1.5	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.	1.5	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.	3.2	51
42	Quantum Coherence in the Time-Resolved Auger Measurement. <i>Physical Review Letters</i> , 2003, 91, 253001.	7.8	48
43	Time-resolving electron-core dynamics during strong-field ionization in circularly polarized fields. <i>Physical Review A</i> , 2013, 88, .	2.5	45
44	Attosecond correlation dynamics during electron tunnelling from molecules. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2010, 43, 161002.	1.5	44
45	Control of attosecond light polarization in two-color bicircular fields. <i>Physical Review A</i> , 2018, 97, .	2.5	42
46	Exchange and polarization effect in high-order harmonic imaging of molecular structures. <i>Physical Review A</i> , 2010, 82, .	2.5	41
47	Spatial molecular interferometry via multidimensional high-harmonic spectroscopy. <i>Nature Photonics</i> , 2020, 14, 188-194.	31.4	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.	1.5	35
49	Opportunities for detecting ring currents using an attoclock setup. <i>Physical Review A</i> , 2015, 92, .	2.5	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.	2.9	34
51	Amplification of intense light fields by nearly free electrons. <i>Nature Physics</i> , 2018, 14, 695-700.	16.7	33
52	Observation of light-driven band structure via multiband high-harmonic spectroscopy. <i>Nature Photonics</i> , 2022, 16, 428-432.	31.4	30
53	Challenges and opportunities in attosecond and XFEL science. <i>Nature Reviews Physics</i> , 2019, 1, 107-111.	26.6	29
54	Sub-cycle valleytronics: control of valley polarization using few-cycle linearly polarized pulses. <i>Optica</i> , 2021, 8, 277.	9.3	28

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55	Enantio-sensitive unidirectional light bending. <i>Nature Communications</i> , 2021, 12, 3951.	12.8	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.	7.8	28
57	Kapitza-Dirac Diffraction without Standing Waves: Diffraction without a Grating?. <i>Physical Review Letters</i> , 2004, 92, 223601.	7.8	26
58	Coulomb time delays in high harmonic generation. <i>New Journal of Physics</i> , 2017, 19, 023012.	2.9	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.	1.5	25
60	Opportunities for sub-laser-cycle spectroscopy in condensed phase. <i>Chemical Physics</i> , 2013, 414, 3-9.	1.9	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.	1.5	23
62	Propensity rules in photoelectron circular dichroism in chiral molecules. I. Chiral hydrogen. <i>Physical Review A</i> , 2019, 99, .	2.5	23
63	Multidimensional high harmonic spectroscopy. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2015, 48, 174006.	1.5	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.	1.5	22
65	Ultrafast optical rotation in chiral molecules with ultrashort and tightly focused beams. <i>Optica</i> , 2021, 8, 1243.	9.3	22
66	Use of Electron Correlation to Make Attosecond Measurements without Attosecond Pulses. <i>Physical Review Letters</i> , 2005, 94, 213001.	7.8	20
67	Towards a one-femtosecond film. <i>Nature Physics</i> , 2010, 6, 159-160.	16.7	20
68	Propensity rules in photoelectron circular dichroism in chiral molecules. II. General picture. <i>Physical Review A</i> , 2019, 99, .	2.5	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.	1.5	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.	1.5	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.	1.5	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.	1.5	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.	10.3	14
74	A look under the tunnelling barrier via attosecond-gated interferometry. <i>Nature Photonics</i> , 2022, 16, 304-310.	31.4	14
75	Attosecond recorder of the polarization state of light. <i>Nature Communications</i> , 2018, 9, 850.	12.8	11
76	Strong chiral response in non-collinear high harmonic generation driven by purely electric-dipole interactions. <i>Optics Express</i> , 2022, 30, 4659.	3.4	11
77	Enantiosensitive steering of free-induction decay. <i>Science Advances</i> , 2022, 8, .	10.3	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.	1.5	10
79	General theory of photoexcitation induced photoelectron circular dichroism. <i>Journal of Chemical Physics</i> , 2018, 149, 064104.	3.0	10
80	Attosecond prints of electrons. <i>Nature</i> , 2010, 466, 701-702.	27.8	9
81	Role of electronic correlations in photoionization of NO ₂ in the vicinity of the A ² ₁ /B ² ₂ conical intersection. <i>Physical Chemistry Chemical Physics</i> , 2017, 19, 19673-19682.	2.8	9
82	Disentangling enantiosensitivity from dichroism using bichromatic fields. <i>Physical Chemistry Chemical Physics</i> , 2022, 24, 7264-7273.	2.8	9
83	Signatures of attosecond electronic-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.	2.9	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.	1.5	7
85	Direct measurement of Coulomb-laser coupling. <i>Scientific Reports</i> , 2021, 11, 495.	3.3	6
86	Looking inside the tunnelling barrier: II. Co- and counter-rotating electrons at the "tunnelling exit"™. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2018, 51, 174002.	1.5	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.	2.8	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.	2.8	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.	1.5	1

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91	Nasca patterning in the microworld. Nature Photonics, 2020, 14, 527-528.	31.4	1
92	Highly spin-polarized multi-GeV electron beams generated by single-species plasma photocathodes. Physical Review Research, 2022, 4, .	3.6	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