

# Thomas Fennel

## List of Publications by Year in descending order

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97  
papers

2,832  
citations

201658

27  
h-index

175241

52  
g-index

104  
all docs

104  
docs citations

104  
times ranked

2178  
citing authors

#	ARTICLE	IF	CITATIONS
1	Laser-driven nonlinear cluster dynamics. <i>Reviews of Modern Physics</i> , 2010, 82, 1793-1842.	45.6	384
2	Attosecond physics at the nanoscale. <i>Reports on Progress in Physics</i> , 2017, 80, 054401.	20.1	274
3	Controlled near-field enhanced electron acceleration from dielectric nanospheres with intense few-cycle laser fields. <i>Nature Physics</i> , 2011, 7, 656-662.	16.7	210
4	Multistep Ionization of Argon Clusters in Intense Femtosecond Extreme Ultraviolet Pulses. <i>Physical Review Letters</i> , 2008, 100, 133401.	7.8	150
5	Resolving Ultrafast Heating of Dense Cryogenic Hydrogen. <i>Physical Review Letters</i> , 2014, 112, 105002.	7.8	95
6	Highly Charged Ions from Laser-Cluster Interactions: Local-Field-Enhanced Impact Ionization and Frustrated Electron-Ion Recombination. <i>Physical Review Letters</i> , 2007, 99, 233401.	7.8	91
7	Plasmon-Enhanced Electron Acceleration in Intense Laser Metal-Cluster Interactions. <i>Physical Review Letters</i> , 2007, 98, 143401.	7.8	84
8	The 3D-architecture of individual free silver nanoparticles captured by X-ray scattering. <i>Nature Communications</i> , 2015, 6, 6187.	12.8	82
9	Field propagation-induced directionality of carrier-envelope phase-controlled photoemission from nanospheres. <i>Nature Communications</i> , 2015, 6, 7944.	12.8	78
10	Ionization dynamics of simple metal clusters in intense fields by the Thomas-Fermi-Vlasov method. <i>European Physical Journal D</i> , 2004, 29, 367-378.	1.3	76
11	Attosecond chronoscopy of electron scattering in dielectric nanoparticles. <i>Nature Physics</i> , 2017, 13, 766-770.	16.7	74
12	Coherent diffractive imaging of single helium nanodroplets with a high harmonic generation source. <i>Nature Communications</i> , 2017, 8, 493.	12.8	71
13	Rare-gas clusters in intense VUV, XUV and soft x-ray pulses: signatures of the transition from nanoplasma-driven cluster expansion to Coulomb explosion in ion and electron spectra. <i>New Journal of Physics</i> , 2011, 13, 053022.	2.9	62
14	Ionization heating in rare-gas clusters under intense XUV laser pulses. <i>Physical Review A</i> , 2010, 82, .	2.5	54
15	Coherent Electronic Wave Packet Motion in $C_{60}$ by the Waveform and Polarization of Few-Cycle Laser Fields. <i>Physical Review Letters</i> , 2015, 114, 123004.	7.8	51
16	Origin of strong-field-induced low-order harmonic generation in amorphous quartz. <i>Nature Physics</i> , 2020, 16, 1035-1039.	16.7	51
17	Three-Dimensional Shapes of Spinning Helium Nanodroplets. <i>Physical Review Letters</i> , 2018, 121, 255301.	7.8	49
18	Attosecond Plasma Wave Dynamics in Laser-Driven Cluster Nanoplasmas. <i>Physical Review Letters</i> , 2012, 108, 175007.	7.8	47

#	ARTICLE	IF	CITATIONS
19	Steeplike Intensity Threshold Behavior of Extreme Ionization in Laser-Driven Xenon Clusters. <i>Physical Review Letters</i> , 2010, 105, 053401.	7.8	42
20	Tracing Electron-Ion Recombination in Nanoplasmas Produced by Extreme-Ultraviolet Irradiation of Rare-Gas Clusters. <i>Physical Review Letters</i> , 2014, 112, 253401.	7.8	39
21	Carrier-envelope phase-tagged imaging of the controlled electron acceleration from SiO <sub>2</sub> nanospheres in intense few-cycle laser fields. <i>New Journal of Physics</i> , 2012, 14, 075010.	2.9	37
22	Atomic photoionization in combined intense XUV free-electron and infrared laser fields. <i>New Journal of Physics</i> , 2012, 14, 043008.	2.9	36
23	Time-Resolved X-Ray Imaging of Anisotropic Nanoplasma Expansion. <i>Physical Review Letters</i> , 2014, 113, 133401.	7.8	33
24	Charging of metal clusters in helium droplets exposed to intense femtosecond laser pulses. <i>Physical Chemistry Chemical Physics</i> , 2007, 9, 4639.	2.8	32
25	Observation of correlated electronic decay in expanding clusters triggered by near-infrared fields. <i>Nature Communications</i> , 2015, 6, 8596.	12.8	32
26	Nanoplasmonic electron acceleration by attosecond-controlled forward rescattering in silver clusters. <i>Nature Communications</i> , 2017, 8, 1181.	12.8	31
27	Fully microscopic analysis of laser-driven finite plasmas using the example of clusters. <i>New Journal of Physics</i> , 2012, 14, 065011.	2.9	28
28	Ionization Avalanching in Clusters Ignited by Extreme-Ultraviolet Driven Seed Electrons. <i>Physical Review Letters</i> , 2016, 116, 033001.	7.8	28
29	Recombination dynamics of clusters in intense extreme-ultraviolet and near-infrared fields. <i>New Journal of Physics</i> , 2015, 17, 033043.	2.9	26
30	High-order above-threshold photoemission from nanotips controlled with two-color laser fields. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2018, 51, 134001.	1.5	26
31	Electron-relocalization dynamics in xenon clusters in intense soft-x-ray fields. <i>Physical Review A</i> , 2014, 89, .	2.5	25
32	Explicit formulation of second and third order optical nonlinearity in the FDTD framework. <i>Computer Physics Communications</i> , 2018, 222, 70-83.	7.5	25
33	Ionic recoil energies in the Coulomb explosion of metal clusters. <i>European Physical Journal D</i> , 2001, 16, 59-63.	1.3	23
34	Competition of single and double rescattering in the strong-field photoemission from dielectric nanospheres. <i>Applied Physics B: Lasers and Optics</i> , 2016, 122, 101.	2.2	23
35	Equilibration dynamics and conductivity of warm dense hydrogen. <i>Physical Review E</i> , 2014, 90, 013104.	2.1	22
36	Recombination-Enhanced Surface Expansion of Clusters in Intense Soft X-Ray Laser Pulses. <i>Physical Review Letters</i> , 2016, 117, 153401.	7.8	21

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37	Few-cycle laser driven reaction nanoscopy on aerosolized silica nanoparticles. <i>Nature Communications</i> , 2019, 10, 4655.	12.8	19
38	Non-resonant absorption enhancement in laser-excited simple metal clusters through electron-electron collisions. <i>Physical Review A</i> , 2008, 77, .	2.5	17
39	Trapping field assisted backscattering in strong-field photoemission from dielectric nanospheres. <i>Journal of Modern Optics</i> , 2017, 64, 1096-1103.	1.3	17
40	Ionization-Induced Subcycle Metallization of Nanoparticles in Few-Cycle Pulses. <i>ACS Photonics</i> , 2020, 7, 3207-3215.	6.6	15
41	Resonant charging of Xe clusters in helium nanodroplets under intense laser fields. <i>European Physical Journal D</i> , 2011, 63, 281-288.	1.3	14
42	Accurate determination of absolute carrier-envelope phase dependence using photo-ionization. <i>Optics Letters</i> , 2015, 40, 3137.	3.3	14
43	Quenching of material dependence in few-cycle driven electron acceleration from nanoparticles under many-particle charge interaction. <i>Journal of Modern Optics</i> , 2017, 64, 995-1003.	1.3	14
44	Phase- and intensity-resolved measurements of above threshold ionization by few-cycle pulses. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2018, 51, 134007.	1.5	14
45	Onset of charge interaction in strong-field photoemission from nanometric needle tips. <i>Nanophotonics</i> , 2021, 10, 3769-3775.	6.0	14
46	Collision-enhanced plasmonic electron acceleration in small metal clusters. <i>New Journal of Physics</i> , 2012, 14, 055011.	2.9	11
47	Real-time fragmentation dynamics of clusters ionized by intense extreme-ultraviolet pulses. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2015, 48, 185101.	1.5	11
48	Attosecond streaking metrology with isolated nanotargets. <i>Journal of Optics (United Kingdom)</i> , 2018, 20, 024002.	2.2	11
49	Low-Energy Electron Emission in the Strong-Field Ionization of Rare Gas Clusters. <i>Physical Review Letters</i> , 2018, 121, 063202.	7.8	11
50	Light wave driven electron dynamics in clusters. <i>Annalen Der Physik</i> , 2014, 526, 135-156.	2.4	10
51	Influence of wavelength and pulse duration on single-shot x-ray diffraction patterns from nonspherical nanoparticles. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2015, 48, 204004.	1.5	10
52	A sensitive EUV Schwarzschild microscope for plasma studies with sub-micrometer resolution. <i>Review of Scientific Instruments</i> , 2018, 89, 023703.	1.3	10
53	Nonlinear Lorentz model for the description of nonlinear optical dispersion in nanophotonics simulations [Invited]. <i>Optical Materials Express</i> , 2019, 9, 771.	3.0	8
54	Characterization of Laser-Induced Ionization Dynamics in Solid Dielectrics. <i>ACS Photonics</i> , 2022, 9, 233-240.	6.6	8

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55	Signatures of transient resonance heating in photoemission from free NaCl nanoparticles in intense femtosecond laser pulses. <i>Journal of Electron Spectroscopy and Related Phenomena</i> , 2015, 200, 216-221.	1.7	7
56	All-optical spatio-temporal control of electron emission from SiO <sub>2</sub> nanospheres with femtosecond two-color laser fields. <i>New Journal of Physics</i> , 2019, 21, 073011.	2.9	7
57	Few-femtosecond resolved imaging of laser-driven nanoplasma expansion. <i>New Journal of Physics</i> , 2022, 24, 043024.	2.9	7
58	Strong-field physics with nanospheres. <i>Advances in Physics: X</i> , 2022, 7, .	4.1	7
59	Signatures of bound-state-assisted nonsequential double ionization. <i>Physical Review A</i> , 2009, 80, .	2.5	6
60	Ultrafast electron kinetics in short pulse laser-driven dense hydrogen. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2015, 48, 224004.	1.5	6
61	MeV femtosecond electron pulses from direct-field acceleration in low density atomic gases. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2016, 49, 024001.	1.5	6
62	Spectroscopy of rare gas clusters using VUV light from a free-electron-laser. <i>Journal of Electron Spectroscopy and Related Phenomena</i> , 2007, 156-158, 25-29.	1.7	5
63	Time-resolved analysis of strong-field induced plasmon oscillations in metal clusters by spectral interferometry with few-cycle laser fields. <i>Physical Chemistry Chemical Physics</i> , 2011, 13, 8747.	2.8	5
64	Measurement of high-dynamic range x-ray Thomson scattering spectra for the characterization of nano-plasmas at LCLS. <i>Review of Scientific Instruments</i> , 2016, 87, 11E709.	1.3	4
65	Fast reconstruction of single-shot wide-angle diffraction images through deep learning. <i>Machine Learning: Science and Technology</i> , 2020, 1, 045007.	5.0	4
66	Photoelectron spectroscopy of large water clusters ionized by an XUV comb. <i>JPhys Photonics</i> , 2020, 2, 035007.	4.6	3
67	Correlated electronic decay following intense near-infrared ionization of clusters. <i>Journal of Physics: Conference Series</i> , 2015, 635, 012025.	0.4	2
68	Dual crystal x-ray spectrometer at 1.8 keV for high repetition-rate single-photon counting spectroscopy experiments. <i>Journal of Instrumentation</i> , 2016, 11, P08015-P08015.	1.2	2
69	Signatures and mechanisms of plasmon-enhanced electron emission from clusters in few-cycle laser fields. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2017, 50, 224001.	1.5	2
70	Massively parallel microscopic particle-in-cell. <i>Computer Physics Communications</i> , 2017, 219, 269-285.	7.5	2
71	A DFT-based tight-binding approach to the self-consistent description of molecule metal-nanoparticle interactions. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2019, 52, 185101.	1.5	2
72	Quantum coherent diffractive imaging. <i>JPhys Photonics</i> , 2020, 2, 024007.	4.6	2

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73	Recombination-induced autoionization process in rare-gas clusters. , 2014, , .		1
74	Coulomb frustration of the multiphoton ionization of metallic clusters under intense EUV FEL evidenced by ion spectrometry. Journal of Physics B: Atomic, Molecular and Optical Physics, 2015, 48, 234001.	1.5	1
75	Photoemission from Nanomaterials in Strong Few-Cycle Laser Fields. NATO Science for Peace and Security Series B: Physics and Biophysics, 2017, , 283-299.	0.3	1
76	Recombination dynamics in rare-gas clusters after ionization by intense XUV light. , 2014, , .		0
77	Intracluster Coulombic decay following intense NIR ionization of clusters. Journal of Physics: Conference Series, 2015, 635, 102004.	0.4	0
78	Laser-Induced Plasma Dynamics Imaged by Femtosecond In-Line Holography. Springer Proceedings in Physics, 2015, , 345-347.	0.2	0
79	NIR ionization avalanching in clusters ignited by ultrashort XUV pulses. , 2016, , .		0
80	VIII Microscopic particle-in-cell approach. , 2017, , 227-270.		0
81	Strong near-field induced molecular processes on nanoparticles. , 2017, , .		0
82	All-optical spatio-temporal control of electron emission from isolated dielectric nanospheres with two-color laser pulses. , 2017, , .		0
83	Timing the action of light on matter. Nature, 2018, 561, 314-315.	27.8	0
84	Sub-Cycle Metallization of SiO2 Nanoparticles Probed via Carrier-Envelope Phase Dependent Electron Acceleration. , 2019, , .		0
85	Nonlinear Lorentz Model for Explicit Integration of Optical Nonlinearity in FDTD. , 2020, , .		0
86	Angle-resolved Photoelectron Spectroscopy of large Water Clusters ionized by an XUV Comb. , 2021, , .		0
87	A light imprint. Nature Physics, 2021, 17, 1075-1076.	16.7	0
88	Resolving the Ion and Electron Dynamics in Finite Systems Exposed to Intense Optical Laser Fields. Springer Series in Materials Science, 2010, , 85-113.	0.6	0
89	Modelling Intense Laser Plasma Processes - Bridging the Gap Between Microscopic and Macroscopic Phenomena. , 2011, , .		0
90	Laser-Induced Plasma Dynamics Imaged by Femtosecond In-Line Holography. , 2014, , .		0

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91	Recombination-Induced Autoionization Process in Rare-Gas Clusters. Springer Proceedings in Physics, 2015, , 56-59.	0.2	0
92	Coherent Diffractive Imaging of Laser-Driven Plasma Dynamics in Thin Foils. , 2016, , .		0
93	Attosecond clocking of scattering dynamics in dielectrics. , 2016, , .		0
94	Slow electrons from intense laser-cluster interactions. , 2016, , .		0
95	Single-shot diffractive imaging of individual helium nanodroplets with intense multicolor XUV pulses. , 2018, , .		0
96	Study of plasma formation in solid dielectrics with the help of low-order harmonic emission. , 2019, , .		0
97	Angle-resolved Photoelectron Spectroscopy of large Water Clusters ionized by an XUV Comb. , 2020, , .		0