

# Stelios Tzortzakis

## List of Publications by Year in descending order

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155  
papers

7,841  
citations

53794

45  
h-index

51608

86  
g-index

156  
all docs

156  
docs citations

156  
times ranked

4878  
citing authors

#	ARTICLE	IF	CITATIONS
1	Nonequilibrium electron dynamics in noble metals. <i>Physical Review B</i> , 2000, 61, 16956-16966.	3.2	406
2	Femtosecond Laser-Induced Damage and Filamentary Propagation in Fused Silica. <i>Physical Review Letters</i> , 2002, 89, 186601.	7.8	399
3	Observation of abruptly autofocusing waves. <i>Optics Letters</i> , 2011, 36, 1842.	3.3	390
4	Spatiotemporal Airy Light Bullets in the Linear and Nonlinear Regimes. <i>Physical Review Letters</i> , 2010, 105, 253901.	7.8	383
5	Sharply autofocused ring-Airy beams transforming into non-linear intense light bullets. <i>Nature Communications</i> , 2013, 4, 2622.	12.8	290
6	Self-Guided Propagation of Ultrashort IR Laser Pulses in Fused Silica. <i>Physical Review Letters</i> , 2001, 87, 213902.	7.8	238
7	Optically Implemented Broadband Blueshift Switch in the Terahertz Regime. <i>Physical Review Letters</i> , 2011, 106, 037403.	7.8	237
8	Time-evolution of the plasma channel at the trail of a self-guided IR femtosecond laser pulse in air. <i>Optics Communications</i> , 2000, 181, 123-127.	2.1	224
9	Infrared extension of the supercontinuum generated by femtosecond terawatt laser pulses propagating in the atmosphere. <i>Optics Letters</i> , 2000, 25, 1397.	3.3	222
10	Laser-Driven Strong-Field Terahertz Sources. <i>Advanced Optical Materials</i> , 2020, 8, 1900681.	7.3	211
11	Breakup and Fusion of Self-Guided Femtosecond Light Pulses in Air. <i>Physical Review Letters</i> , 2001, 86, 5470-5473.	7.8	197
12	Long-range self-channeling of infrared laser pulses in air: a new propagation regime without ionization. <i>Applied Physics B: Lasers and Optics</i> , 2004, 79, 379-382.	2.2	187
13	Observation of extremely efficient terahertz generation from mid-infrared two-color laser filaments. <i>Nature Communications</i> , 2020, 11, 292.	12.8	186
14	Range of plasma filaments created in air by a multi-terawatt femtosecond laser. <i>Optics Communications</i> , 2005, 247, 171-180.	2.1	184
15	Coherent subterahertz radiation from femtosecond infrared filaments in air. <i>Optics Letters</i> , 2002, 27, 1944.	3.3	176
16	Formation of a conducting channel in air by self-guided femtosecond laser pulses. <i>Physical Review E</i> , 1999, 60, R3505-R3507.	2.1	140
17	Highly efficient broadband terahertz generation from ultrashort laser filamentation in liquids. <i>Nature Communications</i> , 2017, 8, 1184.	12.8	132
18	Infrared femtosecond light filaments in air: simulations and experiments. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2002, 19, 1117.	2.1	129

#	ARTICLE	IF	CITATIONS
19	Experimental Demonstration of Ultrafast THz Modulation in a Graphene-Based Thin Film Absorber through Negative Photoinduced Conductivity. <i>ACS Photonics</i> , 2019, 6, 720-727.	6.6	128
20	Abruptly autofocusing beams enable advanced multiscale photo-polymerization. <i>Optica</i> , 2016, 3, 525.	9.3	127
21	Stationary nonlinear Airy beams. <i>Physical Review A</i> , 2011, 84, .	2.5	123
22	Femtosecond laser-guided electric discharge in air. <i>Physical Review E</i> , 2001, 64, 057401.	2.1	119
23	Detection of Harmful Residues in Honey Using Terahertz Time-Domain Spectroscopy. <i>Applied Spectroscopy</i> , 2013, 67, 1264-1269.	2.2	108
24	Ultraviolet laser filaments for remote laser-induced breakdown spectroscopy (LIBS) analysis: applications in cultural heritage monitoring. <i>Optics Letters</i> , 2006, 31, 1139.	3.3	98
25	Nonlinear propagation dynamics of finite-energy Airy beams. <i>Physical Review A</i> , 2012, 86, .	2.5	83
26	Physics of the conical broadband terahertz emission from two-color laser-induced plasma filaments. <i>Physical Review A</i> , 2014, 89, .	2.5	80
27	Faithful communication Hamiltonian in photonic lattices. <i>Optics Letters</i> , 2012, 37, 4504.	3.3	79
28	Picosecond Time-Resolved X-Ray Absorption Spectroscopy of Ultrafast Aluminum Plasmas. <i>Physical Review Letters</i> , 2005, 94, 025004.	7.8	77
29	Ultrashort laser pulse filamentation from spontaneous X Wave formation in air. <i>Optics Express</i> , 2008, 16, 1565.	3.4	70
30	Tunable intense Airy beams and tailored femtosecond laser filaments. <i>Physical Review A</i> , 2010, 81, .	2.5	70
31	Dynamic response of metamaterials in the terahertz regime: Blueshift tunability and broadband phase modulation. <i>Applied Physics Letters</i> , 2010, 96, .	3.3	67
32	Nonlinear propagation of subpicosecond ultraviolet laser pulses in air. <i>Optics Letters</i> , 2000, 25, 1270.	3.3	66
33	Enhanced terahertz wave emission from air-plasma tailored by abruptly autofocusing laser beams. <i>Optica</i> , 2016, 3, 605.	9.3	64
34	Crossing the threshold of ultrafast laser writing in bulk silicon. <i>Nature Communications</i> , 2017, 8, 773.	12.8	64
35	In-line holography for the characterization of ultrafast laser filamentation in transparent media. <i>Applied Physics Letters</i> , 2008, 93, .	3.3	60
36	Femtosecond and picosecond ultraviolet laser filaments in air: experiments and simulations. <i>Optics Communications</i> , 2001, 197, 131-143.	2.1	58

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37	Filamentation-induced third-harmonic generation in air via plasma-enhanced third-order susceptibility. <i>Physical Review A</i> , 2010, 81, .	2.5	56
38	Influence of negative leader propagation on the triggering and guiding of high voltage discharges by laser filaments. <i>Applied Physics B: Lasers and Optics</i> , 2006, 82, 561-566.	2.2	53
39	Terahertz time domain spectroscopy for the analysis of cultural heritage related materials. <i>Applied Physics B: Lasers and Optics</i> , 2008, 90, 365-368.	2.2	52
40	Terahertz pulse emission optimization from tailored femtosecond laser pulse filamentation in air. <i>Optics Letters</i> , 2009, 34, 2165.	3.3	52
41	Propagation of twin laser pulses in air and concatenation of plasma strings produced by femtosecond infrared filaments. <i>Optics Communications</i> , 2003, 225, 177-192.	2.1	51
42	Optical characteristics of desert dust over the East Mediterranean during summer: a case study. <i>Annales Geophysicae</i> , 2006, 24, 807-821.	1.6	51
43	Efficient third-harmonic generation through tailored IR femtosecond laser pulse filamentation in air. <i>Optics Express</i> , 2009, 17, 3190.	3.4	51
44	Extreme THz fields from two-color filamentation of midinfrared laser pulses. <i>Physical Review A</i> , 2018, 97, .	2.5	48
45	Optically switchable and tunable terahertz metamaterials through photoconductivity. <i>Journal of Optics (United Kingdom)</i> , 2012, 14, 114008.	2.2	47
46	Nonlinear light-matter interaction with femtosecond high-angle Bessel beams. <i>Physical Review A</i> , 2012, 85, .	2.5	46
47	Femtosecond laser induced plasma diffraction gratings in air as photonic devices for high intensity laser applications. <i>Applied Physics Letters</i> , 2009, 94, .	3.3	45
48	Passive radiative cooling and other photonic approaches for the temperature control of photovoltaics: a comparative study for crystalline silicon-based architectures. <i>Optics Express</i> , 2020, 28, 18548.	3.4	45
49	Concatenation of plasma filaments created in air by femtosecond infrared laser pulses. <i>Applied Physics B: Lasers and Optics</i> , 2003, 76, 609-612.	2.2	43
50	Accessing Extreme Spatiotemporal Localization of High-Power Laser Radiation through Transformation Optics and Scalar Wave Equations. <i>Physical Review Letters</i> , 2016, 117, 043902.	7.8	41
51	In-Volume Laser Direct Writing of Silicon—Challenges and Opportunities. <i>Laser and Photonics Reviews</i> , 2021, 15, 2100140.	8.7	38
52	Nonlinear imaging and THz diagnostic tools in the service of Cultural Heritage. <i>Applied Physics A: Materials Science and Processing</i> , 2012, 106, 257-263.	2.3	37
53	Eutectic epsilon-near-zero metamaterial terahertz waveguides. <i>Optics Letters</i> , 2013, 38, 1140.	3.3	36
54	Physical mechanisms of fused silica restructuring and densification after femtosecond laser excitation [Invited]. <i>Optical Materials Express</i> , 2011, 1, 625.	3.0	35

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55	Powerful terahertz waves from long-wavelength infrared laser filaments. <i>Light: Science and Applications</i> , 2020, 9, 186.	16.6	35
56	Enhanced harmonic conversion efficiency in the self-guided propagation of femtosecond ultraviolet laser pulses in argon. <i>Applied Physics B: Lasers and Optics</i> , 2005, 80, 211-214.	2.2	34
57	Plasma strings from ultraviolet laser filaments drive permanent structural modifications in fused silica. <i>Optics Letters</i> , 2007, 32, 2055.	3.3	34
58	Optimal wavelength for two-color filamentation-induced terahertz sources. <i>Optics Express</i> , 2018, 26, 31150.	3.4	34
59	Strong terahertz emission enhancement via femtosecond laser filament concatenation in air. <i>Optics Letters</i> , 2010, 35, 2424.	3.3	32
60	Long spatio-temporally stationary filaments in air using short pulse UV laser Bessel beams. <i>Optics Express</i> , 2009, 17, 5052.	3.4	31
61	Cavitation dynamics and directional microbubble ejection induced by intense femtosecond laser pulses in liquids. <i>Physical Review E</i> , 2012, 86, 036304.	2.1	31
62	Taming Ultrafast Laser Filaments for Optimized Semiconductorâ€™Metal Welding. <i>Laser and Photonics Reviews</i> , 2021, 15, 2000433.	8.7	31
63	Measuring easily electron plasma densities in gases produced by ultrashort lasers and filaments. <i>Optics Express</i> , 2011, 19, 16866.	3.4	30
64	Combined nano and micro structuring for enhanced radiative cooling and efficiency of photovoltaic cells. <i>Scientific Reports</i> , 2021, 11, 11552.	3.3	30
65	Long-range filamentary propagation of subpicosecond ultraviolet laser pulses in fused silica. <i>Optics Letters</i> , 2006, 31, 796.	3.3	27
66	Spectral bandwidth scaling laws and reconstruction of THz wave packets generated from two-color laser plasma filaments. <i>Physical Review A</i> , 2016, 93, .	2.5	27
67	3D holographic light shaping for advanced multiphoton polymerization. <i>Optics Letters</i> , 2020, 45, 85.	3.3	27
68	Calorimetric detection of THz radiation from femtosecond filaments in air. <i>Applied Physics B: Lasers and Optics</i> , 2003, 77, 707-709.	2.2	26
69	Phase Memory Preserving Harmonics from Abruptly Autofocusing Beams. <i>Physical Review Letters</i> , 2017, 119, 223901.	7.8	26
70	Kerr-induced spontaneous Bessel beam formation in the regime of strong two-photon absorption. <i>Optics Express</i> , 2008, 16, 8213.	3.4	25
71	Tailoring the filamentation of intense femtosecond laser pulses with periodic lattices. <i>Physical Review A</i> , 2010, 82, .	2.5	25
72	Coherent control of THz pulses polarization from femtosecond laser filaments in gases. <i>Optics Express</i> , 2010, 18, 18894.	3.4	25

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73	Fano resonances in THz metamaterials composed of continuous metallic wires and split ring resonators. <i>Optics Express</i> , 2014, 22, 26572.	3.4	25
74	Janus waves. <i>Optics Letters</i> , 2016, 41, 4656.	3.3	25
75	Off-resonance and non-resonant dispersion of Kerr nonlinearity for symmetric molecules [Invited]. <i>Optics Express</i> , 2011, 19, 22486.	3.4	24
76	Observation and Optical Tailoring of Photonic Lattice Filaments. <i>Physical Review Letters</i> , 2012, 109, 113905.	7.8	24
77	Nonlinear plasma-assisted collapse of ring-Airy wave packets. <i>Physical Review A</i> , 2016, 93, .	2.5	24
78	Extreme events in complex linear and nonlinear photonic media. <i>Chaos, Solitons and Fractals</i> , 2016, 84, 73-80.	5.1	24
79	THz generation by two-color femtosecond filaments with complex polarization states: four-wave mixing versus photocurrent contributions. <i>Plasma Physics and Controlled Fusion</i> , 2017, 59, 014025.	2.1	24
80	Investigation of the spatial profile of stimulated Raman scattering beams in D2 and H2 gases using a pulsed Nd:YAG laser at 266Ånm. <i>Applied Physics B: Lasers and Optics</i> , 2004, 79, 71-75.	2.2	23
81	Time resolved investigation of coherent acoustic mode oscillations in silver nanoparticles. <i>Physica B: Condensed Matter</i> , 1999, 263-264, 54-56.	2.7	22
82	Ultrafast electron and material dynamics following femtosecond filamentation induced excitation of transparent solids. <i>Applied Physics A: Materials Science and Processing</i> , 2014, 114, 161-168.	2.3	22
83	Submicron Organic-Inorganic Hybrid Radiative Cooling Coatings for Stable, Ultrathin, and Lightweight Solar Cells. <i>ACS Photonics</i> , 2022, 9, 1327-1337.	6.6	22
84	Four-dimensional visualization of single and multiple laser filaments using in-line holographic microscopy. <i>Physical Review A</i> , 2011, 84, .	2.5	20
85	Non-diffracting states in one-dimensional Floquet photonic topological insulators. <i>Europhysics Letters</i> , 2017, 119, 14003.	2.0	19
86	Sub-picosecond ultraviolet laser filamentation-induced bulk modifications in fused silica. <i>Applied Physics A: Materials Science and Processing</i> , 2005, 81, 241-244.	2.3	18
87	Tailored light sheets through opaque cylindrical lenses. <i>Optica</i> , 2016, 3, 1237.	9.3	17
88	Robust authentication through stochastic femtosecond laser filament induced scattering surfaces. <i>Applied Physics Letters</i> , 2016, 108, .	3.3	17
89	Few-cycle laser-pulse collapse in Kerr media: The role of group-velocity dispersion and $X$ -wave formation. <i>Physical Review A</i> , 2008, 78, .	2.5	16
90	Controlling high-power autofocusing waves with periodic lattices. <i>Optics Letters</i> , 2014, 39, 4958.	3.3	16

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91	Impact of gas dynamics on laser filamentation THz sources at high repetition rates. Optics Letters, 2020, 45, 6835.	3.3	16
92	Ring-Airy beams at the wavelength limit. Optics Letters, 2018, 43, 1063.	3.3	15
93	Direct acoustic phonon excitation by intense and ultrashort terahertz pulses. Applied Physics Letters, 2010, 97, 251904.	3.3	14
94	Tailoring femtosecond laser pulse filamentation using plasma photonic lattices. Applied Physics Letters, 2013, 103, .	3.3	14
95	Time- and space-resolved X-ray absorption spectroscopy of aluminum irradiated by a subpicosecond high-power laser. Journal of Quantitative Spectroscopy and Radiative Transfer, 2006, 99, 614-626.	2.3	13
96	Spontaneous emergence of pulses with constant carrier-envelope phase in femtosecond filamentation. Optics Express, 2008, 16, 11103.	3.4	12
97	Intense dynamic bullets in a periodic lattice. Optics Express, 2011, 19, 10057.	3.4	12
98	Structural modifications in fused silica induced by ultraviolet fs laser filaments. Applied Surface Science, 2007, 253, 7865-7868.	6.1	11
99	Nonlinear birefringence due to non-resonant, higher-order Kerr effect in isotropic media. Optics Express, 2011, 19, 6387.	3.4	11
100	Long-scale multiphoton polymerization voxel growth investigation using engineered Bessel beams. Optical Materials Express, 2019, 9, 2838.	3.0	11
101	Analysis of the X-ray and time-resolved XUV emission of laser produced Xe and Kr plasmas. High Energy Density Physics, 2007, 3, 20-27.	1.5	9
102	Monitoring adsorption and sedimentation using evanescent-wave cavity ringdown ellipsometry. Applied Optics, 2013, 52, 1086.	1.8	9
103	Ultrashort laser pulse filamentation with Airy and Bessel beams. Proceedings of SPIE, 2013, , .	0.8	9
104	Ultraviolet radiation impact on the efficiency of commercial crystalline silicon-based photovoltaics: a theoretical thermal-electrical study in realistic device architectures. OSA Continuum, 2020, 3, 1436.	1.8	8
105	Evanescent-Wave Cavity Ring-Down Ellipsometry. Journal of Physical Chemistry Letters, 2011, 2, 1324-1327.	4.6	7
106	Invariant superoscillatory electromagnetic fields in 3D-space. Journal of Optics (United Kingdom), 2017, 19, 014003.	2.2	7
107	Femtosecond Broadband Frequency Switch of Terahertz Three-Dimensional Meta-Atoms. ACS Photonics, 2021, 8, 1097-1102.	6.6	7
108	Transformation of ring-Airy beams during efficient harmonic generation. Optics Letters, 2019, 44, 2974.	3.3	7

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109	Influence of air humidity on 248-nm ultraviolet laser pulse filamentation. <i>Optics Letters</i> , 2019, 44, 2165.	3.3	6
110	An intense tunable femtosecond gas-plasma THz source: Application in spectroscopic studies of polycyclic aromatic hydrocarbons. <i>Journal of Molecular Structure</i> , 2011, 1006, 28-33.	3.6	5
111	Altering the Surface Properties of Metal Alloys Utilizing Facile and Ecological Methods. <i>Langmuir</i> , 2022, 38, 4826-4838.	3.5	5
112	Development of cavity ring-down ellipsometry with spectral and submicrosecond time resolution. <i>Proceedings of SPIE</i> , 2011, , .	0.8	3
113	Nonlinear propagation and filamentation of intense Airy beams in transparent media. <i>Proceedings of SPIE</i> , 2012, , .	0.8	3
114	Observation of Strong THz Fields from Mid-Infrared Two-Color Laser Filaments. , 2018, , .		3
115	Linear X-wave generation by means of cross-phase modulation in Kerr media. <i>Optics Letters</i> , 2008, 33, 3028.	3.3	2
116	Study of THz emission from ring-Airy beam induced plasma. , 2015, , .		2
117	Extremely Bright THz Radiation from Two-color Filamentation of Mid-infrared Laser Pulses. , 2018, , .		2
118	Linear and nonlinear waves in surface and wedge index potentials. <i>Optics Letters</i> , 2012, 37, 1874.	3.3	1
119	Dynamical tailoring of intense femtosecond gas-plasma THz sources. , 2013, , .		1
120	Understanding and controlling on-axis and off-axis THz emission patterns from 2-color femtosecond laser filaments. , 2013, , .		1
121	State Transfer Hamiltonians in Photonic Lattices. , 2014, , 223-245.		1
122	Two-Color Mid-Infrared Laser Filaments Produce Terahertz Pulses with Extreme Efficiency. , 2019, , .		1
123	Passive radiative cooling for the temperature and efficiency control of photovoltaics. , 2021, , .		1
124	Self-guided propagation of ultrashort IR laser pulses in fused silica. , 0, , .		0
125	How to connect femtosecond laser filaments in air. , 2003, 4829, 470.		0
126	Material dynamics from laser pulse filamentation to permanent structural modifications in fused silica. , 2008, , .		0



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127	In-line holography for the 3D reconstruction of laser pulse filamentation in transparent media. , 2008, , .		0
128	Femtosecond filamentation induced micro- and nano-restructuring in the bulk of dielectrics and polymers. , 2011, , .		0
129	Polarization characteristics of superoscillatory beams. , 2013, , .		0
130	Eutectic terahertz metamaterials. , 2013, , .		0
131	Experimental demonstration of rogue waves in disordered Luneburg-type photonic networks. , 2013, , .		0
132	Linear and nonlinear light dynamics in photonic lattices. MATEC Web of Conferences, 2013, 8, 01007.	0.2	0
133	Taming light with photonic lattices written by femtosecond laser. MATEC Web of Conferences, 2013, 8, 01005.	0.2	0
134	Structured adaptive focusing through scattering media. , 2016, , .		0
135	Diffraction properties of Floquet topological states in photonic lattices. , 2017, , .		0
136	Exceeding the bulk modification threshold of silicon with hyper-focused infrared femtosecond laser pulses. , 2017, , .		0
137	Sculptured ultrashort laser wave packets for advanced materials engineering. , 2017, , .		0
138	Demonstration of Ultrafast THz Absorption Modulation in a Graphene-Based Thin Absorber. , 2019, , .		0
139	Ultrafast THz Self-action Graphene Based Modulators. , 2021, , .		0
140	Terahertz Generation from Curved Two-Color Filaments Induced by 2D Airy Wave Packets. , 2021, , .		0
141	Emission of Terahertz Waves from Curved Two-Color Filaments Produced by 2D Airy Wave Packets. , 2021, , .		0
142	Passive radiative cooler for solar cellsâ€™ temperature and efficiency control. , 2021, , .		0
143	Observation of Ultrafast THz Self-actions in Graphene Based Modulators. , 2021, , .		0
144	The Role of Gas Dynamics on Laser Filamentation THz Sources Operating at High Repetition Rates. , 2021, , .		0

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145	Gas dynamics effect on laser filamentation THz sources at high repetition rates. , 2021, , .		0
146	Self-guided propagation of fs UV laser pulses and efficient harmonic generation in low pressure Argon. , 2004, , .		0
147	Long range horizontal propagation of femtosecond self-channelled laser pulses in air. , 2004, , .		0
148	X and time-resolved XUV emission of laser produced Xe and Kr plasmas. European Physical Journal Special Topics, 2006, 133, 957-962.	0.2	0
149	Direct Phonon Excitation in Semiconductors by Ultrashort Intense THz Radiation. , 2009, , .		0
150	Femtosecond laser pulse control of collapsing bubble jets and bubble ejection streams. , 2012, , .		0
151	Enhancing THz radiation from two-color laser-induced air-plasma by using abruptly autofocusing beams. , 2016, , .		0
152	Advanced Multiphoton Polymerization using Tunable Shaped Laser Wavepackets. , 2018, , .		0
153	Precise Holographic Measurements Reveal High Electron Densities in Mid-Infrared Laser Filaments in Air. , 2018, , .		0
154	Impact of Polarization on Mid-IR Air Filaments. , 2018, , .		0
155	Terahertz emission from curved plasma filaments induced by two-color 2D-Airy wave packets. Optics Letters, 2022, 47, 1271-1274.	3.3	0