Jerome Kasparian

List of Publications by Year
in descending order

176	8,374	53789 45	46795 89
papers	citations	h-index	g-index

182	182	182	3188
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Ultrashort filaments of light in weakly ionized, optically transparent media. Reports on Progress in Physics, 2007, 70, 1633-1713.	20.1	939
2	White-Light Filaments for Atmospheric Analysis. Science, 2003, 301, 61-64.	12.6	843
3	The critical laser intensity of self-guided light filaments in air. Applied Physics B: Lasers and Optics, 2000, 71, 877-879.	2.2	394
4	Physics and applications of atmospheric nonlinear optics and filamentation. Optics Express, 2008, 16, 466.	3.4	313
5	Kilometer-range nonlinear propagation of femtosecond laser pulses. Physical Review E, 2004, 69, 036607.	2.1	260
6	Triggering and guiding megavolt discharges by use of laser-induced ionized filaments. Optics Letters, 2002, 27, 772.	3.3	255
7	Long-distance remote laser-induced breakdown spectroscopy using filamentation in air. Applied Physics Letters, 2004, 85, 3977-3979.	3.3	244
8	Higher-Order Kerr Terms Allow Ionization-Free Filamentation in Gases. Physical Review Letters, 2010, 104, 103903.	7.8	235
9	Infrared extension of the supercontinuum generated by femtosecond terawatt laser pulses propagating in the atmosphere. Optics Letters, 2000, 25, 1397.	3.3	222
10	Laser-induced water condensation in air. Nature Photonics, 2010, 4, 451-456.	31.4	179
11	Multiple Filamentation of Terawatt Laser Pulses in Air. Physical Review Letters, 2004, 92, 225002.	7.8	178
12	Teramobile: A mobile femtosecond-terawatt laser and detection system. EPJ Applied Physics, 2002, 20, 183-190.	0.7	170
13	Electric events synchronized with laser filaments in thunderclouds. Optics Express, 2008, 16, 5757.	3.4	152
14	Ultraintense light filaments transmitted through clouds. Applied Physics Letters, 2003, 83, 213-215.	3.3	139
15	Remote LIBS with ultrashort pulses: characteristics in picosecond and femtosecond regimes. Journal of Analytical Atomic Spectrometry, 2004, 19, 437-444.	3.0	127
16	Compression of 1.8â€‚Î¼m laser pulses to sub two optical cycles with bulk material. Applied Physics Letters, 2010, 96, .	3.3	126
17	Microtubule Structure at Improved Resolution. Biochemistry, 2001, 40, 8000-8008.	2.5	119
18	Filamentation of femtosecond light pulses in the air: Turbulent cells versus long-range clusters. Physical Review E, 2004, 70, 046602.	2.1	102

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19	Filament-induced remote surface ablation for long range laser-induced breakdown spectroscopy operation. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2005, 60, 1025-1033.	2.9	102
20	Remote detection and identification of biological aerosols using a femtosecond terawatt lidar system. Applied Physics B: Lasers and Optics, 2004, 78, 535-537.	2.2	95
21	Transition from Plasma-Driven to Kerr-Driven Laser Filamentation. Physical Review Letters, 2011, 106, 243902.	7.8	95
22	Sonographic probing of laser filaments in air. Applied Optics, 2003, 42, 7117.	2.1	89
23	Towards a supercontinuum-based infrared lidar. Applied Physics B: Lasers and Optics, 2003, 77, 357-359.	2.2	86
24	Multifilamentation transmission through fog. Physical Review E, 2005, 72, 026611.	2.1	85
25	Supercontinuum emission and enhanced self-guiding of infrared femtosecond filaments sustained by third-harmonic generation in air. Physical Review E, 2005, 71, 016602.	2.1	80
26	Propagation of fs TW laser filaments in adverse atmospheric conditions. Applied Physics B: Lasers and Optics, 2005, 80, 785-789.	2.2	78
27	Backward supercontinuum emission from a filament generated by ultrashort laser pulses in air. Optics Letters, 2001, 26, 533.	3.3	71
28	Laser filaments generated and transmitted in highly turbulent air. Optics Letters, 2006, 31, 86.	3.3	69
29	Optical rogue wave statistics in laser filamentation. Optics Express, 2009, 17, 12070.	3.4	69
30	Field measurements suggest the mechanism of laser-assisted water condensation. Nature Communications, 2011, 2, 456.	12.8	67
31	White light generation over three octaves by femtosecond filament at 39ÂÂµm in argon. Optics Letters, 2012, 37, 3456.	3.3	67
32	Mobile source of high-energy single-cycle terahertz pulses. Applied Physics B: Lasers and Optics, 2010, 101, 11-14.	2.2	66
33	Triggering and guiding of megavolt discharges by laser-induced filaments under rain conditions. Applied Physics Letters, 2004, 85, 5781-5783.	3.3	64
34	Propagation of laser filaments through an extended turbulent region. Applied Physics Letters, 2007, 91, 171106.	3.3	62
35	Generalized Miller FormulÃ¦. Optics Express, 2010, 18, 6613.	3.4	62
36	Free space laser telecommunication through fog. Optica, 2018, 5, 1338.	9.3	62

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37	Improved laser triggering and guiding of meqavolt discharges with dual fs-ns pulses. Applied Physics Letters, 2006, 88, 021101.	3.3	57
38	Production of ozone and nitrogen oxides by laser filamentation. Applied Physics Letters, 2010, 97, .	3.3	55
39	Influence of negative leader propagation on the triggering and guiding of high voltage discharges by laser filaments. Applied Physics B: Lasers and Optics, 2006, 82, 561-566.	2.2	53
40	Mid-infrared laser filamentation in molecular gases. Optics Letters, 2013, 38, 3194.	3.3	53
41	Nonlinear fast growth of water waves under wind forcing. Physics Letters, Section A: General, Atomic and Solid State Physics, 2014, 378, 1025-1030.	2.1	51
42	Optimal control of filamentation in air. Applied Physics Letters, 2006, 89, 171117.	3.3	50
43	Angular Dependences of Third Harmonic Generation from Microdroplets. Physical Review Letters, 1997, 78, 2952-2955.	7.8	49
44	Characterization of urban aerosols using SEM-microscopy, X-ray analysis and Lidar measurements. Atmospheric Environment, 1998, 32, 2957-2967.	4.1	48
45	High-Field Quantum Calculation Reveals Time-Dependent Negative Kerr Contribution. Physical Review Letters, 2013, 110, 043902.	7.8	46
46	Ultrafast gaseous â€œhalf-wave plateâ€• Optics Express, 2008, 16, 7564.	3.4	44
47	Digital computation and in situ STM approach of silicon anisotropic etching. Surface Science, 1997, 388, 50-62.	1.9	42
48	Mechanism of hollow-core-fiber infrared-supercontinuum compression with bulk material. Physical Review A, 2010, 81, .	2.5	41
49	Saturation of the filament density of ultrashort intense laser pulses in air. Applied Physics B: Lasers and Optics, 2010, 100, 77-84.	2.2	40
50	On negative higher-order Kerr effect and filamentation. Laser Physics, 2011, 21, 1319-1328.	1.2	40
51	White-light filaments for multiparameter analysis of cloud microphysics. Journal of the Optical Society of America B: Optical Physics, 2005, 22, 369.	2.1	37
52	OECD's â€˜Better Life Indexâ€™: can any country be well ranked?. Journal of Applied Statistics, 2012, 39, 2223-2230.	1.3	35
53	32TW atmospheric white-light laser. Applied Physics Letters, 2007, 90, 151106.	3.3	34
54	Amplification of intense light fields by nearly free electrons. Nature Physics, 2018, 14, 695-700.	16.7	33

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55	Nonlinear wave evolution with data-driven breaking. Nature Communications, 2022, 13, 2343.	12.8	31
56	UVâ€“Supercontinuum generated by femtosecond pulse filamentation in air: Meter-range experiments versus numerical simulations. Applied Physics B: Lasers and Optics, 2006, 82, 341-345.	2.2	29
57	Ultraviolet-visible conical emission by multiple laser filaments. Optics Express, 2009, 17, 4726.	3.4	29
58	Spectral dependence of purely-Kerr-driven filamentation in air and argon. Physical Review A, 2010, 82, .	2.5	28
59	Laser-induced plasma cloud interaction and ice multiplication under cirrus cloud conditions. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 10106-10110.	7.1	28
60	Modulational instability in wind-forced waves. Physics Letters, Section A: General, Atomic and Solid State Physics, 2014, 378, 3626-3630.	2.1	28
61	High repetition rate ultrashort laser cuts a path through fog. Applied Physics Letters, 2016, 109, .	3.3	28
62	Contribution of water droplets to charge release by laser filaments in air. Applied Physics Letters, 2009, 95, 091107.	3.3	27
63	Co-existing climate attractors in a coupled aquaplanet. Climate Dynamics, 2019, 53, 6293-6308.	3.8	27
64	From higher-order Kerr nonlinearities to quantitative modeling of third and fifth harmonic generation in argon. Optics Letters, 2011, 36, 828.	3.3	26
65	Spectral up- and downshifting of Akhmediev breathers under wind forcing. Physics of Fluids, 2017, 29, .	4.0	26
66	The laser lightning rod project. EPJ Applied Physics, 2021, 93, 10504.	0.7	26
67	Laser filament-induced aerosol formation. Atmospheric Chemistry and Physics, 2013, 13, 4593-4604.	4.9	25
68	The role of internal feedbacks in shifting deep lake mixing regimes under a warming climate. Freshwater Biology, 2021, 66, 1021-1035.	2.4	24
69	A new transient SRS analysis method of aerosols and application to a nonlinear femtosecond lidar. Optics Communications, 1998, 152, 355-360.	2.1	23
70	Laser Beams Take a Curve. Science, 2009, 324, 194-195.	12.6	23
71	White-light femtosecond Lidar at 100ÂTW power level. Applied Physics B: Lasers and Optics, 2014, 114, 319-325.	2.2	23
72	Modifications to the lidar equation due to nonlinear propagation in air. Applied Physics B: Lasers and Optics, 2001, 73, 157-163.	2.2	21

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73	Performance of one-dimensional hydrodynamic lake models during short-term extreme weather events. Environmental Modelling and Software, 2020, 133, 104852.	4.5	21
74	Arbitrary-order nonlinear contribution to self-steepening. Optics Letters, 2010, 35, 2795.	3.3	20
75	Ray-tracing simulation of ionization-free filamentation. Applied Physics B: Lasers and Optics, 2004, 79, 947-951.	2.2	19
76	Dual-color co-filamentation in Argon. Optics Express, 2008, 16, 14115.	3.4	19
77	Multijoule scaling of laser-induced condensation in air. Applied Physics Letters, 2011, 99, .	3.3	19
78	Remote electrical arc suppression by laser filamentation. Optics Express, 2015, 23, 28640.	3.4	19
79	Spectral correlation and noise reduction in laser filaments. Applied Physics B: Lasers and Optics, 2007, 87, 1-4.	2.2	18
80	Modelling of HNO3-mediated laser-induced condensation: A parametric study. Journal of Chemical Physics, 2011, 135, 134703.	3.0	18
81	Influence of pulse duration, energy, and focusing on laser-assisted water condensation. Applied Physics Letters, 2011, 98, .	3.3	18
82	Laser-assisted water condensation in the atmosphere: a step towards modulating precipitation?. Journal Physics D: Applied Physics, 2012, 45, 293001.	2.8	18
83	Non-homogeneous analysis of rogue wave probability evolution over a shoal. Journal of Fluid Mechanics, 2022, 939, .	3.4	18
84	Non-linear photochemical pathways in laser-induced atmospheric aerosol formation. Scientific Reports, 2015, 5, 14978.	3.3	17
85	1-J white-light continuum from 100-TW laser pulses. Physical Review A, 2011, 83, .	2.5	16
86	Higher-order Kerr improve quantitative modeling of laser filamentation. Optics Letters, 2012, 37, 4347.	3.3	16
87	Laser-induced condensation by ultrashort laser pulses at 248â€‰nm. Applied Physics Letters, 2013, 102, .	3.3	16
88	Laser Filamentation as a New Phase Transition Universality Class. Physical Review Letters, 2015, 114, 063903.	7.8	16
89	Nonlinear stage of Benjamin-Feir instability in forced/damped deep-water waves. Physics of Fluids, 2018, 30, .	4.0	16
90	White-light symmetrization by the interaction of multifilamenting beams. Physical Review A, 2009, 79, .	2.5	15

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91	Conical emission from laser filaments and higher-order Kerr effect in air. Optics Letters, 2011, 36, 4812.	3.3	15
92	Progress towards lightning control using lasers. Journal of the European Optical Society-Rapid Publications, 0, 3, .	1.9	14
93	Laser-Based Weather Control. Optics and Photonics News, 2010, 21, 22.	0.5	14
94	Laser vaporization of cirrus-like ice particles with secondary ice multiplication. Science Advances, 2016, 2, e1501912.	10.3	14
95	Conductivity and discharge guiding properties of mid-IR laser filaments. Applied Physics B: Lasers and Optics, 2016, 122, 1.	2.2	14
96	Recurrence in the high-order nonlinear SchrÃ¶dinger equation: A low-dimensional analysis. Physical Review E, 2017, 96, 012222.	2.1	14
97	Three-dimensional analysis of urban aerosols by use of a combined lidar, scanning electron microscopy, and x-ray microanalysis. Applied Optics, 1998, 37, 2231.	2.1	12
98	Size dependence of nonlinear Mie scattering in microdroplets illuminated by ultrashort pulses. Journal of the Optical Society of America B: Optical Physics, 1998, 15, 1918.	2.1	12
99	Assessing the Dynamics of Organic Aerosols over the North Atlantic Ocean. Scientific Reports, 2017, 7, 45476.	3.3	11
100	Stabilization of Unsteady Nonlinear Waves by Phase-Space Manipulation. Physical Review Letters, 2021, 126, 174501.	7.8	11
101	Laser noise reduction in air. Applied Physics Letters, 2006, 88, 251112.	3.3	10
102	Multiple filamentation of non-uniformly focused ultrashort laser pulses. Applied Physics B: Lasers and Optics, 2009, 94, 243-247.	2.2	10
103	Optimal laser-pulse energy partitioning for air ionization. Physical Review A, 2016, 94, .	2.5	10
104	HV discharge acceleration by sequences of UV laser filaments with visible and near-infrared pulses. New Journal of Physics, 2017, 19, 123040.	2.9	10
105	Cooperative effect of ultraviolet and near-infrared beams in laser-induced condensation. Applied Physics Letters, 2013, 103, .	3.3	9
106	Nonlinear synthesis of complex laser waveforms at remote distances. Physical Review A, 2015, 91, .	2.5	9
107	Cross compression of light bullets by two-color cofilamentation. Physical Review A, 2008, 78, .	2.5	8
108	Contribution of crude oil price to householdsâ€™ budget: The weight of indirect energy use. Energy Policy, 2009, 37, 111-114.	8.8	8

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109	Spin-Glass Model Governs Laser Multiple Filamentation. Physical Review Letters, 2015, 115, 033902.	7.8	8
110	Triggering filamentation using turbulence. Physical Review A, 2016, 94, .	2.5	8
111	Robustness of Competing Climatic States. Journal of Climate, 2022, 35, 2769-2784.	3.2	8
112	Drivers of phytoplankton responses to summer wind events in a stratified lake: A modeling study. Limnology and Oceanography, 2022, 67, 856-873.	3.1	8
113	Ultrashort filaments of light in weakly ionized, optically transparent media. Reports on Progress in Physics, 2008, 71, 109801.	20.1	7
114	Effects of atmospheric turbulence on remote optimal control experiments. Applied Physics Letters, 2008, 92, 041103.	3.3	7
115	Curved plasma channels: Kerr lens and Airy prism. Journal of the European Optical Society-Rapid Publications, 0, 4, .	1.9	7
116	Ultrafast laser spectroscopy and control of atmospheric aerosols. Physical Chemistry Chemical Physics, 2012, 14, 9291.	2.8	7
117	Dual-scale turbulence in filamenting laser beams at high average power. Physical Review A, 2016, 94, .	2.5	7
118	Single-spectrum prediction of kurtosis of water waves in a nonconservative model. Physical Review E, 2019, 100, 013102.	2.1	7
119	Shifting velocity of temperature extremes under climate change. Environmental Research Letters, 2020, 15, 034027.	5.2	7
120	Reversibility of laser filamentation. Optics Express, 2014, 22, 21061.	3.4	6
121	Gas-Solid Phase Transition in Laser Multiple Filamentation. Physical Review Letters, 2017, 118, 133902.	7.8	6
122	Stabilization of uni-directional water wave trains over an uneven bottom. Nonlinear Dynamics, 2020, 101, 1131-1145.	5.2	6
123	Separatrix crossing and symmetry breaking in NLSE-like systems due to forcing and damping. Nonlinear Dynamics, 2020, 102, 2385-2398.	5.2	6
124	Monte-Carlo Simulations of Si Etching: Comparison with in-situ STM images. Microscopy Microanalysis Microstructures, 1994, 5, 257-267.	0.4	6
125	Viscous damping of gravity-capillary waves: Dispersion relations and nonlinear corrections. Physical Review Fluids, 2018, 3, .	2.5	6
126	HV discharges triggered by dual- and triple-frequency laser filaments. Optics Express, 2019, 27, 11339.	3.4	6

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127	Spatial Break-up of Femtosecond Laser Pulses in the Atmosphere. Physica Scripta, 2004, T107, 135.	2.5	5
128	Angular distribution of non-linear optical emission from spheroidal microparticles. Applied Physics B: Lasers and Optics, 2008, 91, 167-171.	2.2	5
129	Lightning control by lasers. Nature Photonics, 2009, 3, 120-121.	31.4	5
130	Filament-induced birefringence in Argon. Laser Physics, 2009, 19, 336-341.	1.2	5
131	Laser induced aerosol formation mediated by resonant excitation of volatile organic compounds. Optica, 2021, 8, 1256.	9.3	5
132	Multi-column modelling of lake Geneva for climate applications. Scientific Reports, 2022, 12, 353.	3.3	5
133	Maximizing energy deposition by shaping few-cycle laser pulses. Journal of Physics B: Atomic, Molecular and Optical Physics, 2018, 51, 135402.	1.5	4
134	Filaments of Light. American Scientist, 2006, 94, 150.	0.1	3
135	On Lightning Control Using Lasers. Springer Series in Chemical Physics, 2010, , 109-122.	0.2	3
136	Time-resolved monitoring of polycyclic aromatic hydrocarbons adsorbed on atmospheric particles. Environmental Science and Pollution Research, 2017, 24, 19517-19523.	5.3	3
137	Energy conservation in self-phase modulation. Physical Review A, 2018, 97, .	2.5	3
138	Ab initio calculations of laser-atom interactions revealing harmonics feedback during macroscopic propagation. Physical Review A, 2019, 99, .	2.5	3
139	Megavolt discharges triggered and guided with laser filaments. , 2003, , .		2
140	Femtosecond LIDAR: new perspectives of atmospheric remote sensing. , 2003, 5149, 135.		2
141	Ultrashort laser applications in lidar and atmospheric sciences. , 2003, 5226, 238.		2
142	<title>Non-linear effects accompanying terawatt laser-pulse in air and their applications</title>. , 2006, 6158, 133.		2
143	Laser-induced water condensation in air. , 2011, , .		2
144	Laser pulse propagation in a meter scale rubidium vapor/plasma cell in AWAKE experiment. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2016, 829, 339-342.	1.6	2

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145	Publisherâ€™s Note: Spectral dependence of purely-Kerr-driven filamentation in air and argon [Phys. Rev. A82, 033826 (2010)]. Physical Review A, 2010, 82, .	2.5	1
146	Mid-Infrared femtosecond filament and three octaves continuum generation in gases. EPJ Web of Conferences, 2013, 41, 10003.	0.3	1
147	Pump-probe differential Lidar to quantify atmospheric supersaturation and particle-forming trace gases. Applied Physics B: Lasers and Optics, 2014, 117, 667-672.	2.2	1
148	Shockwave-assisted laser filament conductivity. Applied Physics Letters, 2017, 111, 211103.	3.3	1
149	Linearity of charge measurement in laser filaments. Optics Express, 2017, 25, 16517.	3.4	1
150	Modifications of filament spectra by shaped octave-spanning laser pulses. Physical Review A, 2018, 98, .	2.5	1
151	Quantitative analysis of self-organized patterns in ombrotrophic peatlands. Scientific Reports, 2019, 9, 1499.	3.3	1
152	Some Properties of Femtosecond Laser Filamentation Relevant to Atmospheric Applications Part II. Large-Scale Filamentation. Springer Series in Chemical Physics, 2007, , 301-318.	0.2	1
153	Creating and Dissipating Clouds in the Atmosphere with Ultrashort Lasers. , 2017, , .		1
154	<title>Monitoring of urban aerosols using a combined lidar/SEM method</title>. , 1997, 3104, 278.		0
155	Characterization and optimization of infrared emission from light filaments observed in a fs-TW laser beam propagating in the atmosphere. , 0, , .		0
156	Vertical propagation of ultrashort laser pulses in the atmosphere and lidar measurements using the Teramobile. , 0, , .		0
157	Sonography: a new method to measure laser filaments in air. , 2003, , .		0
158	Propagation of TW laser pulses in air and applications to lightning control. , 0, , .		0
159	Propagation of femtosecond filaments in atmospheric conditions. , 2007, , .		0
160	TW lasers in air: ultra-high powers and optimal control strategies. Proceedings of SPIE, 2007, , .	0.8	0
161	Higher-order Kerr effect in ultrashort laser pulse propagation and laser filamentation. , 2011, , .		0
162	Supercontinuum Generation by Mid-IR femtosecond Filaments in Molecular Gases. , 2013, , .		0

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163	Laser Filament Induced Water Condensation. EPJ Web of Conferences, 2013, 41, 12008.	0.3	0
164	Higher-order Kerr effects improve quantitative modelling of harmonics generation and laser filamentation. EPJ Web of Conferences, 2013, 41, 12007.	0.3	0
165	Laser Filament-induced Ice Multiplication under Cirrus Cloud Conditions. , 2014, , .		0
166	Laser lightning rod and artificial fog dissipation. , 2021, , .		0
167	RÃ©tro-Ã©mission du continuum gÃ©nÃ©rÃ© dans un filament induit par des impulsions ultra-intenses. European Physical Journal Special Topics, 2002, 12, 383-384.	0.2	0
168	UV-supercontinuum generation and femtosecond filamentation in air. , 2005, , .		0
169	Laser femtoseconde, filamentation, nuage et orage. European Physical Journal Special Topics, 2005, 127, 205-210.	0.2	0
170	Some Properties of Femtosecond Laser Filamentation Relevant to Atmospheric Applications Part I. The Robustness of Filamentation. Springer Series in Chemical Physics, 2007, , 281-300.	0.2	0
171	Femtosecond Lidar and Coherent Control. , 2007, , .		0
172	Filament-induced electric events in thunderstorms. Springer Series in Chemical Physics, 2009, , 967-969.	0.2	0
173	Optical Kerr effect in the strong field regime. , 2013, , .		0
174	Conductivity and Discharge Guiding Properties of Mid-IR Laser Filaments. , 2016, , .		0
175	Multi-Wavelength Laser Control of High-Voltage Discharges: From the Laboratory to SÃntis Mountain. , 2019, , .		0
176	Smooth velocity fields for tracking climate change. Scientific Reports, 2022, 12, 2997.	3.3	0