

Jerome Kasparian

List of Publications by Year in descending order

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176
papers

8,374
citations

53794

45
h-index

46799

89
g-index

182
all docs

182
docs citations

182
times ranked

3188
citing authors

#	ARTICLE	IF	CITATIONS
1	Multi-column modelling of lake Geneva for climate applications. Scientific Reports, 2022, 12, 353.	3.3	5
2	Robustness of Competing Climatic States. Journal of Climate, 2022, 35, 2769-2784.	3.2	8
3	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
4	Smooth velocity fields for tracking climate change. Scientific Reports, 2022, 12, 2997.	3.3	0
5	Non-homogeneous analysis of rogue wave probability evolution over a shoal. Journal of Fluid Mechanics, 2022, 939, .	3.4	18
6	Nonlinear wave evolution with data-driven breaking. Nature Communications, 2022, 13, 2343.	12.8	31
7	The role of internal feedbacks in shifting deep lake mixing regimes under a warming climate. Freshwater Biology, 2021, 66, 1021-1035.	2.4	24
8	Stabilization of Unsteady Nonlinear Waves by Phase-Space Manipulation. Physical Review Letters, 2021, 126, 174501.	7.8	11
9	Laser lightning rod and artificial fog dissipation. , 2021, , .		0
10	Laser induced aerosol formation mediated by resonant excitation of volatile organic compounds. Optica, 2021, 8, 1256.	9.3	5
11	The laser lightning rod project. EPJ Applied Physics, 2021, 93, 10504.	0.7	26
12	Performance of one-dimensional hydrodynamic lake models during short-term extreme weather events. Environmental Modelling and Software, 2020, 133, 104852.	4.5	21
13	Stabilization of uni-directional water wave trains over an uneven bottom. Nonlinear Dynamics, 2020, 101, 1131-1145.	5.2	6
14	Separatrix crossing and symmetry breaking in NLSE-like systems due to forcing and damping. Nonlinear Dynamics, 2020, 102, 2385-2398.	5.2	6
15	Shifting velocity of temperature extremes under climate change. Environmental Research Letters, 2020, 15, 034027.	5.2	7
16	Single-spectrum prediction of kurtosis of water waves in a nonconservative model. Physical Review E, 2019, 100, 013102.	2.1	7
17	Co-existing climate attractors in a coupled aquaplanet. Climate Dynamics, 2019, 53, 6293-6308.	3.8	27
18	<i>Ab initio</i> calculations of laser-atom interactions revealing harmonics feedback during macroscopic propagation. Physical Review A, 2019, 99, .	2.5	3

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19	Quantitative analysis of self-organized patterns in ombrotrophic peatlands. Scientific Reports, 2019, 9, 1499.	3.3	1
20	HV discharges triggered by dual- and triple-frequency laser filaments. Optics Express, 2019, 27, 11339.	3.4	6
21	Multi-Wavelength Laser Control of High-Voltage Discharges: From the Laboratory to SÅntis Mountain. , 2019, , .		0
22	Amplification of intense light fields by nearly free electrons. Nature Physics, 2018, 14, 695-700.	16.7	33
23	Nonlinear stage of Benjamin-Feir instability in forced/damped deep-water waves. Physics of Fluids, 2018, 30, .	4.0	16
24	Modifications of filament spectra by shaped octave-spanning laser pulses. Physical Review A, 2018, 98, .	2.5	1
25	Maximizing energy deposition by shaping few-cycle laser pulses. Journal of Physics B: Atomic, Molecular and Optical Physics, 2018, 51, 135402.	1.5	4
26	Energy conservation in self-phase modulation. Physical Review A, 2018, 97, .	2.5	3
27	Viscous damping of gravity-capillary waves: Dispersion relations and nonlinear corrections. Physical Review Fluids, 2018, 3, .	2.5	6
28	Free space laser telecommunication through fog. Optica, 2018, 5, 1338.	9.3	62
29	Assessing the Dynamics of Organic Aerosols over the North Atlantic Ocean. Scientific Reports, 2017, 7, 45476.	3.3	11
30	Gas-Solid Phase Transition in Laser Multiple Filamentation. Physical Review Letters, 2017, 118, 133902.	7.8	6
31	Time-resolved monitoring of polycyclic aromatic hydrocarbons adsorbed on atmospheric particles. Environmental Science and Pollution Research, 2017, 24, 19517-19523.	5.3	3
32	Recurrence in the high-order nonlinear SchrÅrdinger equation: A low-dimensional analysis. Physical Review E, 2017, 96, 012222.	2.1	14
33	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
34	Shockwave-assisted laser filament conductivity. Applied Physics Letters, 2017, 111, 211103.	3.3	1
35	Spectral up- and downshifting of Akhmediev breathers under wind forcing. Physics of Fluids, 2017, 29, .	4.0	26
36	Linearity of charge measurement in laser filaments. Optics Express, 2017, 25, 16517.	3.4	1

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37	Creating and Dissipating Clouds in the Atmosphere with Ultrashort Lasers. , 2017, , .		1
38	Laser vaporization of cirrus-like ice particles with secondary ice multiplication. Science Advances, 2016, 2, e1501912.	10.3	14
39	High repetition rate ultrashort laser cuts a path through fog. Applied Physics Letters, 2016, 109, .	3.3	28
40	Optimal laser-pulse energy partitioning for air ionization. Physical Review A, 2016, 94, .	2.5	10
41	Triggering filamentation using turbulence. Physical Review A, 2016, 94, .	2.5	8
42	Conductivity and discharge guiding properties of mid-IR laser filaments. Applied Physics B: Lasers and Optics, 2016, 122, 1.	2.2	14
43	Dual-scale turbulence in filamenting laser beams at high average power. Physical Review A, 2016, 94, .	2.5	7
44	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
45	Conductivity and Discharge Guiding Properties of Mid-IR Laser Filaments. , 2016, , .		0
46	Spin-Glass Model Governs Laser Multiple Filamentation. Physical Review Letters, 2015, 115, 033902.	7.8	8
47	Non-linear photochemical pathways in laser-induced atmospheric aerosol formation. Scientific Reports, 2015, 5, 14978.	3.3	17
48	Remote electrical arc suppression by laser filamentation. Optics Express, 2015, 23, 28640.	3.4	19
49	Nonlinear synthesis of complex laser waveforms at remote distances. Physical Review A, 2015, 91, .	2.5	9
50	Laser Filamentation as a New Phase Transition Universality Class. Physical Review Letters, 2015, 114, 063903.	7.8	16
51	Reversibility of laser filamentation. Optics Express, 2014, 22, 21061.	3.4	6
52	Laser Filament-induced Ice Multiplication under Cirrus Cloud Conditions. , 2014, , .		0
53	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
54	White-light femtosecond Lidar at 100ÂTW power level. Applied Physics B: Lasers and Optics, 2014, 114, 319-325.	2.2	23

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55	Modulational instability in wind-forced waves. Physics Letters, Section A: General, Atomic and Solid State Physics, 2014, 378, 3626-3630.	2.1	28
56	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
57	Cooperative effect of ultraviolet and near-infrared beams in laser-induced condensation. Applied Physics Letters, 2013, 103, .	3.3	9
58	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
59	High-Field Quantum Calculation Reveals Time-Dependent Negative Kerr Contribution. Physical Review Letters, 2013, 110, 043902.	7.8	46
60	Laser-induced condensation by ultrashort laser pulses at 248nm. Applied Physics Letters, 2013, 102, .	3.3	16
61	Supercontinuum Generation by Mid-IR femtosecond Filaments in Molecular Gases. , 2013, , .		0
62	Mid-infrared laser filamentation in molecular gases. Optics Letters, 2013, 38, 3194.	3.3	53
63	Mid-Infrared femtosecond filament and three octaves continuum generation in gases. EPJ Web of Conferences, 2013, 41, 10003.	0.3	1
64	Laser filament-induced aerosol formation. Atmospheric Chemistry and Physics, 2013, 13, 4593-4604.	4.9	25
65	Laser Filament Induced Water Condensation. EPJ Web of Conferences, 2013, 41, 12008.	0.3	0
66	Higher-order Kerr effects improve quantitative modelling of harmonics generation and laser filamentation. EPJ Web of Conferences, 2013, 41, 12007.	0.3	0
67	Optical Kerr effect in the strong field regime. , 2013, , .		0
68	White light generation over three octaves by femtosecond filament at 39μm in argon. Optics Letters, 2012, 37, 3456.	3.3	67
69	Higher-order Kerr improve quantitative modeling of laser filamentation. Optics Letters, 2012, 37, 4347.	3.3	16
70	OECD's "Better Life Index"™: can any country be well ranked?. Journal of Applied Statistics, 2012, 39, 2223-2230.	1.3	35
71	Laser-assisted water condensation in the atmosphere: a step towards modulating precipitation?. Journal Physics D: Applied Physics, 2012, 45, 293001.	2.8	18
72	Ultrafast laser spectroscopy and control of atmospheric aerosols. Physical Chemistry Chemical Physics, 2012, 14, 9291.	2.8	7

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73	Multijoule scaling of laser-induced condensation in air. Applied Physics Letters, 2011, 99, .	3.3	19
74	Transition from Plasma-Driven to Kerr-Driven Laser Filamentation. Physical Review Letters, 2011, 106, 243902.	7.8	95
75	From higher-order Kerr nonlinearities to quantitative modeling of third and fifth harmonic generation in argon. Optics Letters, 2011, 36, 828.	3.3	26
76	Conical emission from laser filaments and higher-order Kerr effect in air. Optics Letters, 2011, 36, 4812.	3.3	15
77	On negative higher-order Kerr effect and filamentation. Laser Physics, 2011, 21, 1319-1328.	1.2	40
78	Modelling of HNO ₃ -mediated laser-induced condensation: A parametric study. Journal of Chemical Physics, 2011, 135, 134703.	3.0	18
79	1-J white-light continuum from 100-TW laser pulses. Physical Review A, 2011, 83, .	2.5	16
80	Influence of pulse duration, energy, and focusing on laser-assisted water condensation. Applied Physics Letters, 2011, 98, .	3.3	18
81	Field measurements suggest the mechanism of laser-assisted water condensation. Nature Communications, 2011, 2, 456.	12.8	67
82	Higher-order Kerr effect in ultrashort laser pulse propagation and laser filamentation. , 2011, , .		0
83	Laser-induced water condensation in air. , 2011, , .		2
84	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
85	Laser-induced water condensation in air. Nature Photonics, 2010, 4, 451-456.	31.4	179
86	Publisher's Note: Spectral dependence of purely-Kerr-driven filamentation in air and argon [Phys. Rev. A, 2010, 82, 033826 (2010)]. Physical Review A, 2010, 82, .	2.5	1
87	Spectral dependence of purely-Kerr-driven filamentation in air and argon. Physical Review A, 2010, 82, .	2.5	28
88	Mechanism of hollow-core-fiber infrared-supercontinuum compression with bulk material. Physical Review A, 2010, 81, .	2.5	41
89	Compression of 1.8-µm laser pulses to sub two optical cycles with bulk material. Applied Physics Letters, 2010, 96, .	3.3	126
90	Generalized Miller Formula. Optics Express, 2010, 18, 6613.	3.4	62

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91	Arbitrary-order nonlinear contribution to self-steepening. Optics Letters, 2010, 35, 2795.	3.3	20
92	Laser-Based Weather Control. Optics and Photonics News, 2010, 21, 22.	0.5	14
93	Mobile source of high-energy single-cycle terahertz pulses. Applied Physics B: Lasers and Optics, 2010, 101, 11-14.	2.2	66
94	On Lightning Control Using Lasers. Springer Series in Chemical Physics, 2010, , 109-122.	0.2	3
95	Production of ozone and nitrogen oxides by laser filamentation. Applied Physics Letters, 2010, 97, .	3.3	55
96	Higher-Order Kerr Terms Allow Ionization-Free Filamentation in Gases. Physical Review Letters, 2010, 104, 103903.	7.8	235
97	Contribution of water droplets to charge release by laser filaments in air. Applied Physics Letters, 2009, 95, 091107.	3.3	27
98	White-light symmetrization by the interaction of multifilamenting beams. Physical Review A, 2009, 79, .	2.5	15
99	Laser Beams Take a Curve. Science, 2009, 324, 194-195.	12.6	23
100	Multiple filamentation of non-uniformly focused ultrashort laser pulses. Applied Physics B: Lasers and Optics, 2009, 94, 243-247.	2.2	10
101	Lightning control by lasers. Nature Photonics, 2009, 3, 120-121.	31.4	5
102	Contribution of crude oil price to householdsâ€™ budget: The weight of indirect energy use. Energy Policy, 2009, 37, 111-114.	8.8	8
103	Filament-induced birefringence in Argon. Laser Physics, 2009, 19, 336-341.	1.2	5
104	Ultraviolet-visible conical emission by multiple laser filaments. Optics Express, 2009, 17, 4726.	3.4	29
105	Optical rogue wave statistics in laser filamentation. Optics Express, 2009, 17, 12070.	3.4	69
106	Filament-induced electric events in thunderstorms. Springer Series in Chemical Physics, 2009, , 967-969.	0.2	0
107	Angular distribution of non-linear optical emission from spheroidal microparticles. Applied Physics B: Lasers and Optics, 2008, 91, 167-171.	2.2	5
108	Physics and applications of atmospheric nonlinear optics and filamentation. Optics Express, 2008, 16, 466.	3.4	313

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109	Electric events synchronized with laser filaments in thunderclouds. Optics Express, 2008, 16, 5757.	3.4	152
110	Ultrafast gaseous "half-wave plate". Optics Express, 2008, 16, 7564.	3.4	44
111	Dual-color co-filamentation in Argon. Optics Express, 2008, 16, 14115.	3.4	19
112	Ultrashort filaments of light in weakly ionized, optically transparent media. Reports on Progress in Physics, 2008, 71, 109801.	20.1	7
113	Cross compression of light bullets by two-color cofilamentation. Physical Review A, 2008, 78, .	2.5	8
114	Effects of atmospheric turbulence on remote optimal control experiments. Applied Physics Letters, 2008, 92, 041103.	3.3	7
115	Propagation of laser filaments through an extended turbulent region. Applied Physics Letters, 2007, 91, 171106.	3.3	62
116	32TW atmospheric white-light laser. Applied Physics Letters, 2007, 90, 151106.	3.3	34
117	Propagation of femtosecond filaments in atmospheric conditions. , 2007, , .		0
118	Ultrashort filaments of light in weakly ionized, optically transparent media. Reports on Progress in Physics, 2007, 70, 1633-1713.	20.1	939
119	TW lasers in air: ultra-high powers and optimal control strategies. Proceedings of SPIE, 2007, , .	0.8	0
120	Spectral correlation and noise reduction in laser filaments. Applied Physics B: Lasers and Optics, 2007, 87, 1-4.	2.2	18
121	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
122	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
123	Femtosecond Lidar and Coherent Control. , 2007, , .		0
124	Laser noise reduction in air. Applied Physics Letters, 2006, 88, 251112.	3.3	10
125	Improved laser triggering and guiding of meqavolt discharges with dual fs-ns pulses. Applied Physics Letters, 2006, 88, 021101.	3.3	57
126	Laser filaments generated and transmitted in highly turbulent air. Optics Letters, 2006, 31, 86.	3.3	69

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127	<title>Non-linear effects accompanying terawatt laser-pulse in air and their applications</title> . , 2006, 6158, 133.		2
128	Filaments of Light. American Scientist, 2006, 94, 150.	0.1	3
129	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
130	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
131	Optimal control of filamentation in air. Applied Physics Letters, 2006, 89, 171117.	3.3	50
132	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
133	Propagation of fs TW laser filaments in adverse atmospheric conditions. Applied Physics B: Lasers and Optics, 2005, 80, 785-789.	2.2	78
134	Multifilamentation transmission through fog. Physical Review E, 2005, 72, 026611.	2.1	85
135	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
136	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
137	UV-supercontinuum generation and femtosecond filamentation in air. , 2005, , .		0
138	Laser femtoseconde, filamentation, nuage et orage. European Physical Journal Special Topics, 2005, 127, 205-210.	0.2	0
139	Spatial Break-up of Femtosecond Laser Pulses in the Atmosphere. Physica Scripta, 2004, T107, 135.	2.5	5
140	Filamentation of femtosecond light pulses in the air: Turbulent cells versus long-range clusters. Physical Review E, 2004, 70, 046602.	2.1	102
141	Long-distance remote laser-induced breakdown spectroscopy using filamentation in air. Applied Physics Letters, 2004, 85, 3977-3979.	3.3	244
142	Triggering and guiding of megavolt discharges by laser-induced filaments under rain conditions. Applied Physics Letters, 2004, 85, 5781-5783.	3.3	64
143	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
144	Ray-tracing simulation of ionization-free filamentation. Applied Physics B: Lasers and Optics, 2004, 79, 947-951.	2.2	19

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145	Remote LIBS with ultrashort pulses: characteristics in picosecond and femtosecond regimes. Journal of Analytical Atomic Spectrometry, 2004, 19, 437-444.	3.0	127
146	Kilometer-range nonlinear propagation of femtosecond laser pulses. Physical Review E, 2004, 69, 036607.	2.1	260
147	Multiple Filamentation of Terawatt Laser Pulses in Air. Physical Review Letters, 2004, 92, 225002.	7.8	178
148	Towards a supercontinuum-based infrared lidar. Applied Physics B: Lasers and Optics, 2003, 77, 357-359.	2.2	86
149	Sonographic probing of laser filaments in air. Applied Optics, 2003, 42, 7117.	2.1	89
150	White-Light Filaments for Atmospheric Analysis. Science, 2003, 301, 61-64.	12.6	843
151	Megavolt discharges triggered and guided with laser filaments. , 2003, , .		2
152	Sonography: a new method to measure laser filaments in air. , 2003, , .		0
153	Ultraintense light filaments transmitted through clouds. Applied Physics Letters, 2003, 83, 213-215.	3.3	139
154	Femtosecond LIDAR: new perspectives of atmospheric remote sensing. , 2003, 5149, 135.		2
155	Ultrashort laser applications in lidar and atmospheric sciences. , 2003, 5226, 238.		2
156	Triggering and guiding megavolt discharges by use of laser-induced ionized filaments. Optics Letters, 2002, 27, 772.	3.3	255
157	Teramobile: A mobile femtosecond-terawatt laser and detection system. EPJ Applied Physics, 2002, 20, 183-190.	0.7	170
158	Rétro-émission 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
159	Backward supercontinuum emission from a filament generated by ultrashort laser pulses in air. Optics Letters, 2001, 26, 533.	3.3	71
160	Microtubule Structure at Improved Resolution. Biochemistry, 2001, 40, 8000-8008.	2.5	119
161	Modifications to the lidar equation due to nonlinear propagation in air. Applied Physics B: Lasers and Optics, 2001, 73, 157-163.	2.2	21
162	The critical laser intensity of self-guided light filaments in air. Applied Physics B: Lasers and Optics, 2000, 71, 877-879.	2.2	394

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163	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
164	Characterization of urban aerosols using SEM-microscopy, X-ray analysis and Lidar measurements. <i>Atmospheric Environment</i> , 1998, 32, 2957-2967.	4.1	48
165	A new transient SRS analysis method of aerosols and application to a nonlinear femtosecond lidar. <i>Optics Communications</i> , 1998, 152, 355-360.	2.1	23
166	Three-dimensional analysis of urban aerosols by use of a combined lidar, scanning electron microscopy, and x-ray microanalysis. <i>Applied Optics</i> , 1998, 37, 2231.	2.1	12
167	Size dependence of nonlinear Mie scattering in microdroplets illuminated by ultrashort pulses. <i>Journal of the Optical Society of America B: Optical Physics</i> , 1998, 15, 1918.	2.1	12
168	Angular Dependences of Third Harmonic Generation from Microdroplets. <i>Physical Review Letters</i> , 1997, 78, 2952-2955.	7.8	49
169	<title>Monitoring of urban aerosols using a combined lidar/SEM method</title>. , 1997, 3104, 278.		0
170	Digital computation and in situ STM approach of silicon anisotropic etching. <i>Surface Science</i> , 1997, 388, 50-62.	1.9	42
171	Monte-Carlo Simulations of Si Etching: Comparison with in-situ STM images. <i>Microscopy Microanalysis Microstructures</i> , 1994, 5, 257-267.	0.4	6
172	Characterization and optimization of infrared emission from light filaments observed in a fs-TW laser beam propagating in the atmosphere. , 0, , .		0
173	Vertical propagation of ultrashort laser pulses in the atmosphere and lidar measurements using the Teramobile. , 0, , .		0
174	Propagation of TW laser pulses in air and applications to lightning control. , 0, , .		0
175	Progress towards lightning control using lasers. <i>Journal of the European Optical Society-Rapid Publications</i> , 0, 3, .	1.9	14
176	Curved plasma channels: Kerr lens and Airy prism. <i>Journal of the European Optical Society-Rapid Publications</i> , 0, 4, .	1.9	7