

Cesar Jauregui Misas

List of Publications by Year in descending order

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176
papers

7,358
citations

53794

45
h-index

54911

84
g-index

177
all docs

177
docs citations

177
times ranked

2785
citing authors

#	ARTICLE	IF	CITATIONS
1	High-power fibre lasers. Nature Photonics, 2013, 7, 861-867.	31.4	924
2	Experimental observations of the threshold-like onset of mode instabilities in high power fiber amplifiers. Optics Express, 2011, 19, 13218.	3.4	541
3	Yb-doped large-pitch fibres: effective single-mode operation based on higher-order mode delocalisation. Light: Science and Applications, 2012, 1, e8-e8.	16.6	251
4	Fiber chirped-pulse amplification system emitting 38 GW peak power. Optics Express, 2011, 19, 255.	3.4	243
5	Temporal dynamics of mode instabilities in high-power fiber lasers and amplifiers. Optics Express, 2012, 20, 15710.	3.4	231
6	The impact of modal interference on the beam quality of high-power fiber amplifiers. Optics Express, 2011, 19, 3258.	3.4	202
7	Physical origin of mode instabilities in high-power fiber laser systems. Optics Express, 2012, 20, 12912.	3.4	200
8	High average power large-pitch fiber amplifier with robust single-mode operation. Optics Letters, 2011, 36, 689.	3.3	185
9	Femtosecond and picosecond laser drilling of metals at high repetition rates and average powers. Optics Letters, 2009, 34, 3304.	3.3	177
10	Transverse mode instability. Advances in Optics and Photonics, 2020, 12, 429.	25.5	174
11	Single mode 43 kW output power from a diode-pumped Yb-doped fiber amplifier. Optics Express, 2017, 25, 14892.	3.4	167
12	High-speed modal decomposition of mode instabilities in high-power fiber lasers. Optics Letters, 2011, 36, 4572.	3.3	151
13	94 W 980 nm high brightness Yb-doped fiber laser. Optics Express, 2008, 16, 17310.	3.4	147
14	26 mJ, 130 W Q-switched fiber-laser system with near-diffraction-limited beam quality. Optics Letters, 2012, 37, 1073.	3.3	137
15	Impact of photodarkening on the mode instability threshold. Optics Express, 2015, 23, 15265.	3.4	135
16	Simplified modelling the mode instability threshold of high power fiber amplifiers in the presence of photodarkening. Optics Express, 2015, 23, 20203.	3.4	122
17	Designing advanced very-large-mode-area fibers for power scaling of fiber-laser systems. Optica, 2014, 1, 233.	9.3	114
18	Thermally induced waveguide changes in active fibers. Optics Express, 2012, 20, 3997.	3.4	108

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19	Ultrafast thulium fiber laser system emitting more than 1â€‰kW of average power. Optics Letters, 2018, 43, 5853.	3.3	107
20	Watt-scale super-octave mid-infrared intrapulse difference frequency generation. Light: Science and Applications, 2018, 7, 94.	16.6	101
21	Efficient high-power generation of visible and mid-infrared light by degenerate four-wave-mixing in a large-mode-area photonic-crystal fiber. Optics Letters, 2009, 34, 3499.	3.3	99
22	All-fiber laser source for CARS microscopy based on fiber optical parametric frequency conversion. Optics Express, 2012, 20, 4484.	3.4	98
23	Lateral polishing of bends in plastic optical fibres applied to a multipoint liquid-level measurement sensor. Sensors and Actuators A: Physical, 2007, 137, 68-73.	4.1	93
24	Passive mitigation strategies for mode instabilities in high-power fiber laser systems. Optics Express, 2013, 21, 19375.	3.4	87
25	The influence of index-depressions in core-pumped Yb-doped large pitch fibers. Optics Express, 2010, 18, 26834.	3.4	85
26	152â€‰W average power Tm-doped fiber CPA system. Optics Letters, 2014, 39, 4671.	3.3	85
27	Temperature-induced index gratings and their impact on mode instabilities in high-power fiber laser systems. Optics Express, 2012, 20, 440.	3.4	78
28	Impact of atmospheric molecular absorption on the temporal and spatial evolution of ultra-short optical pulses. Optics Express, 2015, 23, 13776.	3.4	78
29	24ÂµJ, 33ÂW Q-switched Tm-doped fiber laser with near diffraction-limited beam quality. Optics Letters, 2013, 38, 97.	3.3	74
30	Controlling mode instabilities by dynamic mode excitation with an acousto-optic deflector. Optics Express, 2013, 21, 17285.	3.4	72
31	High Repetition Rate Gigawatt Peak Power Fiber Laser Systems: Challenges, Design, and Experiment. IEEE Journal of Selected Topics in Quantum Electronics, 2009, 15, 159-169.	2.9	67
32	Suppression of stimulated Raman scattering employing long period gratings in double-clad fiber amplifiers. Optics Letters, 2010, 35, 2982.	3.3	67
33	Tm-based fiber-laser system with more than 200â€‰MW peak power. Optics Letters, 2015, 40, 9.	3.3	66
34	Widely tuneable fiber optical parametric amplifier for coherent anti-Stokes Raman scattering microscopy. Optics Express, 2012, 20, 26583.	3.4	63
35	High average and peak power femtosecond large-pitch photonic-crystal-fiber laser. Optics Letters, 2011, 36, 244.	3.3	62
36	Fiber-based light sources for biomedical applications of coherent anti-Stokes Raman scattering microscopy. Laser and Photonics Reviews, 2015, 9, 435-451.	8.7	61

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37	Scaling the mode instability threshold with multicore fibers. Optics Letters, 2014, 39, 2680.	3.3	60
38	Thulium-doped fiber chirped-pulse amplification system with 2 GW of peak power. Optics Letters, 2016, 41, 4130.	3.3	60
39	Derivation of Raman threshold formulas for CW double-clad fiber amplifiers. Optics Express, 2009, 17, 8476.	3.4	59
40	Optimizing high-power Yb-doped fiber amplifier systems in the presence of transverse mode instabilities. Optics Express, 2016, 24, 7879.	3.4	57
41	Avoided crossings in photonic crystal fibers. Optics Express, 2011, 19, 13578.	3.4	56
42	2â€‰kW average power from a pulsed Yb-doped rod-type fiber amplifier. Optics Letters, 2014, 39, 6446.	3.3	56
43	Coherent Beam Combination of Ultrafast Fiber Lasers. IEEE Journal of Selected Topics in Quantum Electronics, 2018, 24, 1-9.	2.9	56
44	Nonlinear pulse compression to 43â€‰W GW-class few-cycle pulses at 2â€‰ μ m wavelength. Optics Letters, 2017, 42, 4179.	3.3	47
45	Preferential gain photonic-crystal fiber for mode stabilization at high average powers. Optics Express, 2011, 19, 8656.	3.4	46
46	High-power very large mode-area thulium-doped fiber laser. Optics Letters, 2012, 37, 4546.	3.3	46
47	Modal energy transfer by thermally induced refractive index gratings in Yb-doped fibers. Light: Science and Applications, 2018, 7, 59.	16.6	46
48	Pump-modulation-induced beam stabilization in high-power fiber laser systems above the mode instability threshold. Optics Express, 2018, 26, 10691.	3.4	42
49	Nonlinear compression of an ultrashort-pulse thulium-based fiber laser to sub-70â€‰fs in Kagome photonic crystal fiber. Optics Letters, 2015, 40, 2770.	3.3	41
50	Analysis of passively combined divided-pulse amplification as an energy-scaling concept. Optics Express, 2013, 21, 29031.	3.4	40
51	58â€‰mJ burst comprising ultrashort pulses with homogenous energy level from an Yb-doped fiber amplifier. Optics Letters, 2012, 37, 5169.	3.3	39
52	Modeling the inhibition of stimulated Raman scattering in passive and active fibers by lumped spectral filters in high power fiber laser systems. Optics Express, 2009, 17, 16255.	3.4	37
53	Side-pump combiner for all-fiber monolithic fiber lasers and amplifiers. Journal of the Optical Society of America B: Optical Physics, 2010, 27, 1011.	2.1	36
54	Fiber-based source for multiplex-CARS microscopy based on degenerate four-wave mixing. Optics Express, 2012, 20, 12004.	3.4	36

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55	Performance Scaling of Ultrafast Laser Systems by Coherent Addition of Femtosecond Pulses. IEEE Journal of Selected Topics in Quantum Electronics, 2014, 20, 268-277.	2.9	35
56	Self-compression in a solid fiber to 24â€‰%â€‰MW peak power with few-cycle pulses at 2â€‰%â€‰ $\lambda/4$ wavelength. Optics Letters, 2015, 40, 5160.	3.3	35
57	Gas-plasma-based generation of broadband terahertz radiation with 640â€‰%â€‰mW average power. Optics Letters, 2021, 46, 5256.	3.3	35
58	Fast algorithm for spectral processing with application to on-line welding quality assurance. Measurement Science and Technology, 2006, 17, 2623-2629.	2.6	31
59	High-power efficient generation of visible and mid-infrared radiation exploiting four-wave-mixing in optical fibers. Optics Express, 2012, 20, 24957.	3.4	31
60	Non-hexagonal Large-Pitch Fibers for enhanced mode discrimination. Optics Express, 2011, 19, 12081.	3.4	29
61	Fiber based polarization filter for radially and azimuthally polarized light. Optics Express, 2011, 19, 19582.	3.4	29
62	Fiber laser-driven gas plasma-based generation of THz radiation with 50-mW average power. Applied Physics B: Lasers and Optics, 2020, 126, 2.	2.2	27
63	Analysis of stimulated Raman scattering in cw kW fiber oscillators. Proceedings of SPIE, 2014, , .	0.8	26
64	Interrogation unit for fiber Bragg grating sensors that uses a slanted fiber grating. Optics Letters, 2004, 29, 676.	3.3	25
65	Triple-clad large-pitch fibers for compact high-power pulsed fiber laser systems. Optics Letters, 2014, 39, 209.	3.3	25
66	New raw material discrimination system based on a spatial optical spectroscopy technique. Sensors and Actuators A: Physical, 2007, 135, 605-612.	4.1	24
67	High-power thermally guiding index-antiguinding-core fibers. Optics Letters, 2013, 38, 510.	3.3	24
68	Phase-shift evolution of the thermally-induced refractive index grating in high-power fiber laser systems induced by pump-power variations. Optics Express, 2018, 26, 19489.	3.4	24
69	High average power nonlinear compression to 4â€‰%â€‰GW, sub-50â€‰%â€‰fs pulses at 2â€‰%â€‰ $\lambda/4$ wavelength. Optics Letters, 2017, 42, 747.	3.3	23
70	Transverse single-mode operation in a passive large pitch fiber with more than 200â€‰%â€‰ $\lambda/4$ mode-field diameter. Optics Letters, 2019, 44, 650.	3.3	23
71	Virtual long-period gratings. Optics Letters, 2005, 30, 14.	3.3	22
72	Brillouin assisted slow-light enhancement via Fabry-Perot cavity effects. Optics Express, 2007, 15, 5126.	3.4	17

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73	Improved Modal Reconstruction for Spatially and Spectrally Resolved Imaging $\{m S\}^2$. Journal of Lightwave Technology, 2013, 31, 1295-1299.	4.6	17
74	Average power limit of fiber-laser systems with nearly diffraction-limited beam quality. Proceedings of SPIE, 2016, , .	0.8	17
75	Impact of thermo-optical effects in coherently combined multicore fiber amplifiers. Optics Express, 2020, 28, 38093.	3.4	17
76	1009â€‰nm continuous-wave ytterbium-doped fiber amplifier emitting 146â€‰W. Optics Letters, 2014, 39, 3725.	3.3	16
77	Coherent combination of two Tm-doped fiber amplifiers. Optics Letters, 2015, 40, 2301.	3.3	16
78	500â€‰W rod-type 4â€‰m ² multicore ultrafast fiber laser. Optics Letters, 2022, 47, 345.	3.3	15
79	Dispersion-free pulse duration reduction of passively Q-switched microchip lasers. Optics Letters, 2012, 37, 4401.	3.3	13
80	Experimental analysis of Raman-induced transverse mode instability in a core-pumped Raman fiber amplifier. Optics Express, 2021, 29, 16175.	3.4	13
81	Transverse mode instability and thermal effects in thulium-doped fiber amplifiers under high thermal loads. Optics Express, 2021, 29, 14963.	3.4	13
82	Relative amplitude noise transfer function of an Yb ³⁺ -doped fiber amplifier chain. Optics Express, 2019, 27, 17041.	3.4	13
83	On the Raman threshold of passive large mode area fibers. Proceedings of SPIE, 2011, , .	0.8	12
84	Real-time characterisation of modal content in monolithic few-mode fibre lasers. Electronics Letters, 2011, 47, 274.	1.0	11
85	Thermal analysis of Yb-doped high-power fiber amplifiers with Al:P co-doped cores. Optics Express, 2018, 26, 7614.	3.4	11
86	Multiparameter sensor based on a chaotic fiber-ring resonator. Journal of the Optical Society of America B: Optical Physics, 2006, 23, 2024.	2.1	10
87	High-energy Q-switched 16-core tapered rod-type fiber laser system. Optics Letters, 2022, 47, 1725.	3.3	10
88	Fabrication of FBCs With an Arbitrary Spectrum. IEEE Sensors Journal, 2008, 8, 1287-1291.	4.7	9
89	Experimental investigation of transverse mode instabilities in a double-pass Yb-doped rod-type fiber amplifier. Proceedings of SPIE, 2017, , .	0.8	9
90	Simplified design of optical elements for filled-aperture coherent beam combination. Optics Express, 2020, 28, 21035.	3.4	8

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91	An all-fiber Raman laser for cylindrical vector beam generation. Laser Physics Letters, 2013, 10, 125108.	1.4	7
92	Transverse mode instabilities in burst operation of high-power fiber laser systems. , 2018, , .		7
93	Interrogation of interferometric sensors with a tilted fiber Bragg grating. Optics Express, 2004, 12, 5646.	3.4	6
94	In situ spatially-resolved thermal and Brillouin diagnosis of high-power ytterbium-doped fibre laser by Brillouin optical time domain analysis. Electronics Letters, 2009, 45, 153.	1.0	6
95	Passively stabilized 215-W monolithic CW LMA-fiber laser with innovative transversal mode filter. , 2010, , .		6
96	All-fiber side pump combiner for high-power fiber lasers and amplifiers. , 2010, , .		6
97	Cavity ring-down in a photonic bandgap fiber gas cell. , 2008, , .		6
98	Ultrashort pulse laser drilling of metals using a high-repetition rate high average power fiber CPA system. , 2009, , .		5
99	Mitigation of mode instabilities by dynamic excitation of fiber modes. Proceedings of SPIE, 2013, , .	0.8	5
100	The impact of pump-power noise on transverse mode instabilities. , 2019, , .		5
101	Origin and evolution of phase-shifts in high-power fiber laser systems: detailed insights into TMI. , 2019, , .		5
102	Interrogation of fibre Bragg gratings with a tilted fibre Bragg grating. Measurement Science and Technology, 2004, 15, 1596-1600.	2.6	4
103	Ultra-large mode area fibers for high power lasers. , 2018, , .		4
104	Delay-gain decoupling in Brillouin-assisted slow light. Optics Letters, 2007, 32, 2701.	3.3	3
105	Fiber based generation of azimuthally polarized light. Proceedings of SPIE, 2012, , .	0.8	3
106	On the thermal origin of mode instabilities in high power fiber lasers. , 2012, , .		3
107	Breaking the symmetry for enhanced higher-order mode delocalization. , 2014, , .		3
108	All-fiber optical parametric oscillator for bio-medical imaging applications. , 2017, , .		3

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109	Optimizing the noise characteristics of high-power fiber laser systems. , 2017, , .		3
110	Ultrafast Tm-Doped Fiber Amplifier with 1 kW Average Output Power. , 2019, , .		3
111	Towards the control of the modal energy transfer in transverse mode instabilities. , 2018, , .		3
112	Periodic Signal Processing Using a Brillouin Gain Comb. , 2008, , .		2
113	CGH-based real-time analysis of fiber Bragg gratings in few mode LMA fibers. Proceedings of SPIE, 2012, , .	0.8	2
114	26-mJ pulse energy Q-switched large-pitch fiber laser system with excellent beam quality. Proceedings of SPIE, 2012, , .	0.8	2
115	Passive mitigation of mode instabilities. , 2014, , .		2
116	Wavelength dependence of maximal diffraction-limited output power of fiber lasers. Proceedings of SPIE, 2015, , .	0.8	2
117	Recent progress in the understanding of mode instabilities. Proceedings of SPIE, 2015, , .	0.8	2
118	Optimizing large-pitch fibers for higher average powers. Proceedings of SPIE, 2016, , .	0.8	2
119	Four-wave mixing based light sources for real-world biomedical applications of coherent Raman microscopy. Proceedings of SPIE, 2016, , .	0.8	2
120	Tm: fiber CPA driven nonlinear pulse compression stage delivering multi-GW, sub-10 fs pulses at 20 W of average power. , 2019, , .		2
121	Observation of transverse-mode instabilities in a thulium-doped fiber amplifier. , 2019, , .		2
122	Investigation of the thermo-optical behavior of multicore fibers used in coherently combined fiber laser systems. , 2020, , .		2
123	Alignment and maintenance free all-fiber laser source for CARS microscopy based on frequency conversion by four-wave-mixing. , 2012, , .		1
124	Mode instabilities in large-mode-area fiber amplifiers. , 2013, , .		1
125	Smoothed spectra for enhanced dispersion-free pulse duration reduction of passively Q-switched microchip lasers. Optics Letters, 2014, 39, 505.	3.3	1
126	Sub-700fs pulses at 152 W average power from a Tm-doped fiber CPA system. Proceedings of SPIE, 2015, , .	0.8	1

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127	Towards sub-100 fs multi-GW pulses directly emitted from a Thulium-doped fiber CPA system. , 2017, , .		1
128	Controlling mode instabilities at 628 W average output power in an Yb-doped rod-type fiber amplifier by active modulation of the pump power. Proceedings of SPIE, 2017, , .	0.8	1
129	The impact of core co-dopants on the mode instability threshold of high-power fiber laser systems. Proceedings of SPIE, 2017, , .	0.8	1
130	Pump-Power-Noise Influence on Mode Instabilities in High-Power Fiber Laser Systems. , 2019, , .		1
131	Characterization of transverse mode instability in fiber-laser systems using a position-sensitive detector. , 2021, , .		1
132	Control and stabilization of the modal content of fiber amplifiers using traveling waves. Optics Express, 2021, 29, 34452.	3.4	1
133	Single-mode propagation with 205 Åµm mode-field diameter in a passive large pitch fiber. , 2019, , .		1
134	The sensitivity of the mode instability threshold to different types of intensity noise. , 2020, , .		1
135	Watt-class optical parametric amplification driven by a thulium-doped fiber laser in the molecular fingerprint region. , 2020, , .		1
136	Digital adaptative filters for interrogating fiber optic sensors. , 2005, 5855, 900.		0
137	New Approaches to Extending the Performance of Brillouin Based Slow Light Systems. Conference Proceedings - Lasers and Electro-Optics Society Annual Meeting-LEOS, 2007, , .	0.0	0
138	Suppression of stimulated Raman scattering in high-power fiber laser systems by lumped spectral filters. , 2010, , .		0
139	Fiber based ultrashort pulse laser systems at ultrahigh average power levels. Proceedings of SPIE, 2010, , .	0.8	0
140	Influence of Index Depressions in Active Large Pitch Fibers. , 2010, , .		0
141	Impact of modal interference on high-power fiber laser systems. Proceedings of SPIE, 2011, , .	0.8	0
142	Robust single-mode ytterbium-doped large pitch fiber emitting 294 W. , 2011, , .		0
143	High power Q-switched fiber laser system emitting 26 mJ pulses with near diffraction-limited beam quality. , 2012, , .		0
144	Fiber Optical Parametric Frequency Conversion: Alignment and Maintenance Free All-fiber Laser Concept for CARS Microscopy. , 2012, , .		0

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145	Widely tunable parametric generation of picosecond visible and mid-infrared radiation in optical fibers. , 2013, , .		0
146	High power, high energy Tm-doped Q-switched large-pitch fiber laser. , 2013, , .		0
147	Temperature as a guiding mechanism for high-power very-large-mode-area active fibers. , 2013, , .		0
148	Mitigation strategies for mode instabilities in high-power fiber-laser systems. , 2013, , .		0
149	On the power threshold of mode instabilities. , 2013, , .		0
150	Fiber amplifier CPA system using divided-pulse amplification for multi-mJ extraction. , 2013, , .		0
151	Radial and azimuthal polarized all-fiber Raman oscillator. , 2013, , .		0
152	58 mJ burst containing ultra-short pulses with homogenous energy level from an Yb-doped fiber amplifier. , 2013, , .		0
153	Mode instabilities: physical origin and mitigation strategies. Proceedings of SPIE, 2013, , .	0.8	0
154	Efficiency improvement in Thulium-doped fibers via excited state pumping. Proceedings of SPIE, 2014, , .	0.8	0
155	146W continuous wave ytterbium doped fiber amplifier at 1009 nm. Proceedings of SPIE, 2014, , .	0.8	0
156	Yb-doped Rod-type Fiber Amplifier with 2 kW Average Power. , 2014, , .		0
157	All-fiber Raman oscillator for the generation of radially and azimuthally polarized beams. , 2014, , .		0
158	High gain ytterbium doped Ge pedestal large pitch fiber. , 2014, , .		0
159	Self-efficiency improvement and cooling in thulium-doped fibers. Proceedings of SPIE, 2015, , .	0.8	0
160	Peak power scaling of thulium-doped ultrafast fiber laser systems. , 2015, , .		0
161	Thermal optimization of high power fiber laser systems. , 2016, , .		0
162	Optimizing the mode instability threshold of high-power fiber laser systems. Proceedings of SPIE, 2016, , .	0.8	0

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163	Self-compression to 24 MW peak power in a fused silica solid-core fiber using a high-repetition rate thulium-based fiber laser system. Proceedings of SPIE, 2016, , .	0.8	0
164	High-average power 4 GW pulses with sub-8 optical cycles from a Tm-doped fiber laser driven nonlinear pulse compression stage. , 2017, , .		0
165	Self-protecting nonlinear compression in a solid fiber for long-term stable ultrafast lasers at 2 $\hat{1}$ / ₄ m wavelength. Proceedings of SPIE, 2017, , .	0.8	0
166	The Impact of Fiber Core Design and Thermally-Induced Phase Shifts on the Threshold of Mode Instabilities. , 2019, , .		0
167	High Performance Ultrafast Thulium-Doped Fiber Lasers. , 2019, , .		0
168	50mW Average Power Gas-Plasma THz Generation Driven by a Fiber Laser. , 2019, , .		0
169	Average-Power Scaling of Broadband THz radiation to 50 mW. , 2019, , .		0
170	Mitigation of transverse mode instability through a dynamic modification of the inversion in high-power fiber amplifiers. , 2021, , .		0
171	Optimizing the design of coherently combined multicore fiber amplifiers. , 2021, , .		0
172	Nonlinear pulse compression stage delivering 43-W few-cycle pulses with GW peak-power at 2- \hat{A} μ m wavelength. , 2018, , .		0
173	Fiber-laser driven THz source based on air-plasma. , 2019, , .		0
174	Talbot fiber: a poormanâ€™s approach to coherent combining. , 2020, , .		0
175	Mitigation of transverse mode instability with travelling waves in high-power fiber amplifiers. , 2020, , .		0
176	108 W average power ultrashort pulses with GW-level peak power from a Tm-doped fiber CPA system. , 2020, , .		0