Marcelo A Soto

List of Publications by Year
in descending order

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163 papers	4,260 citations	126907 33 h-index	114465 63 g-index
165 all docs	165 docs citations	165 times ranked	1515 citing authors

#	Article	IF	Citations
1	Deep-Learning-Based Earthquake Detection for Fiber-Optic Distributed Acoustic Sensing. Journal of Lightwave Technology, 2022, 40, 2639-2650.	4.6	27
2	Enhancing fibre-optic distributed acoustic sensing capabilities with blind near-field array signal processing. Nature Communications, 2022, 13, .	12.8	15
3	Evaluating and Minimizing Induced Microbending Losses in Optical Fiber Sensors Embedded Into Glass-Fiber Composites. Journal of Lightwave Technology, 2021, 39, 7315-7325.	4.6	9
4	Liquid Flow Meter by Fiber-Optic Sensing of Heat Propagation. Sensors, 2021, 21, 355.	3.8	15
5	Swelling-Based Distributed Chemical Sensing with Standard Acrylate Coated Optical Fibers. Sensors, 2021, 21, 718.	3.8	3
6	Study on Hole-Wall Temperature Measurements During Drilling of Carbon Fiber Composites. Mechanisms and Machine Science, 2021, , 653-658.	0.5	0
7	Impact of optical noises on unipolar-coded Brillouin optical time-domain analyzers. Optics Express, 2021, 29, 22146.	3.4	12
8	Evaluating measurement uncertainty in Brillouin distributed optical fibre sensors using image denoising. Nature Communications, 2021, 12, 4901.	12.8	8
9	Reliable packaging of optical fiber Bragg grating sensors for carbon fiber composite wind turbine blades. Composites Science and Technology, 2021, 213, 108933.	7.8	12
10	High-Order Polynomial Fitting Assistance for Fast Double-Peak Finding in Brillouin-Distributed Sensing. Sensors, 2021, 21, 187.	3.8	1
11	Genetic-Optimized Pulse Coding Technique for Brillouin Distributed Optical Fiber Sensing. , 2021, , .		0
12	Reducing Microbending Losses in Glass Fiber-Packaged Fiber Bragg Grating Sensors for Wind Blades Monitoring. , 2021, , .		0
13	Genetic-optimised aperiodic code for distributed optical fibre sensors. Nature Communications, 2020, 11, 5774.	12.8	56
14	Common-Path Dual-Comb Spectroscopy Using a Single Electro-Optic Modulator. Journal of Lightwave Technology, 2020, 38, 5107-5115.	4.6	18
15	Evaluating Phase Errors in Phase-Sensitive Optical Time-Domain Reflectometry based on I/Q Demodulation. Journal of Lightwave Technology, 2020, , 1-1.	4.6	15
16	High-resolution chirped-pulse -OTDR by means of sub-bands processing. Journal of Lightwave Technology, 2020, , 1-1.	4.6	3
17	Spectral Properties of the Signal in Phase-Sensitive Optical Time-Domain Reflectometry With Direct Detection. Journal of Lightwave Technology, 2020, 38, 1513-1521.	4.6	18
18	Distributed acoustic sensing for seismic activity monitoring. APL Photonics, 2020, 5, .	5.7	92

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19	Study on the signal-to-noise ratio of Brillouin optical-time domain analyzers. Optics Express, 2020, 28, 19864.	3.4	28
20	Reducing Residual Strain in Fiber Bragg Grating Temperature Sensors Embedded in Carbon Fiber Reinforced Polymers. Journal of Lightwave Technology, 2019, 37, 4650-4656.	4.6	20
21	Measuring the Two-Dimensional Temperature Profile of Carbon Fiber Reinforced Polymers During Drilling Using Distributed Fiber Sensing. Journal of Lightwave Technology, 2019, 37, 4687-4696.	4.6	5
22	Analysis and Reduction of Large Errors in Rayleigh-Based Distributed Sensor. Journal of Lightwave Technology, 2019, 37, 4710-4719.	4.6	34
23	Distributed modular temperature-strain sensor based on optical fiber embedded in laminated composites. Composites Part B: Engineering, 2019, 168, 267-273.	12.0	31
24	Alternating strain response of fibre Bragg grating sensors embedded into carbon fibre composites for wind blade health monitoring. , 2019, , .		5
25	High-resolution distributed shape sensing using phase-sensitive optical time-domain reflectometry and multicore fibers. Optics Express, 2019, 27, 20763.	3.4	27
26	Distributed Brillouin Sensing: Time-DomainÂTechniques. , 2019, , 1663-1753.		3
27	Distributed Raman Sensing. , 2019, , 1609-1662.		0
28	Optimizing the signal-to-noise ratio for direct-detection BOTDA. , 2019, , .		1
29	Boosting the spatial resolution in chirped pulse ï•-OTDR using sub-band processing. , 2019, , .		4
30	Guest Editorial JLT Special Issue on OFS-26. Journal of Lightwave Technology, 2019, 37, 4455-4455.	4.6	0
31	Brillouin Distributed Optical Fiber Sensor Based on a Closed-Loop Configuration. Journal of Lightwave Technology, 2018, 36, 1239-1248.	4.6	29
32	Distributed Raman Sensing. , 2018, , 1-55.		4
33	Distributed Brillouin Sensing: Time-Domain Techniques. , 2018, , 1-91.		10
34	Optimizing Image Denoising for Long-Range Brillouin Distributed Fiber Sensing. Journal of Lightwave Technology, 2018, 36, 1168-1177.	4.6	40
35	Impact of the Fiber Coating on the Temperature Response of Distributed Optical Fiber Sensors at Cryogenic Ranges. Journal of Lightwave Technology, 2018, 36, 961-967.	4.6	31
36	Hybrid Coding Scheme for Brillouin Optical Time-domain Analysis Based on Golay and Differential Pulses. , 2018, , .		1

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37	Design rules for Unipolar Unicolor Coded Brillouin Optical Time Domain Analysis. , 2018, , .		0
38	High-Performance Optical Fibre Sensing. , 2018, , .		0
39	Distributed Acoustic Impedance Measurement Based On Forward Stimulated Brillouin Scattering. , 2018, , .		0
40	Rayleigh-Based Distributed Optical Fiber Sensing Using Least Mean Square Similarity. , 2018, , .		5
41	Impact of Fitting and Digital Filtering on Signal-to-Noise Ratio and Brillouin Frequency Shift Uncertainty of BOTDA Measurements. , 2018, , .		6
42	Hybrid Golay-coded Brillouin optical time-domain analysis based on differential pulses. Optics Letters, 2018, 43, 4574.	3.3	15
43	Thermal and Residual Strain Response of an FBG-Based Temperature Sensor Embedded in Carbon Fiber Reinforced Composites. , 2018, , .		1
44	Distributed forward Brillouin sensor based on local light phase recovery. Nature Communications, 2018, 9, 2990.	12.8	116
45	Design rules for optimizing unipolar coded Brillouin optical time-domain analyzers. Optics Express, 2018, 26, 16505.	3.4	39
46	Local activation of surface and hybrid acoustic waves in optical microwires. Optics Letters, 2018, 43, 1487.	3.3	10
47	High-Resolution Distributed Differential Curvature Measurement Based on Phase-Sensitive Optical Time Domain Reflectometry and Multi-Core Fiber. , 2018, , .		0
48	Characterization of dynamic strain induced by drilling carbon fiber reinforced polymers using optical frequency-domain reflectometry. , 2018, , .		0
49	Temperature sensitivity enhancement in a standard optical fiber with double coatings at low temperature. , 2017, , .		2
50	Discrimination of temperature and strain by combined refractive index and birefringence measurements using coherent Rayleigh sensing. , 2017, , .		0
51	Demonstration of distributed shape sensing based on Brillouin scattering in multi-core fibers. , 2017, , .		3
52	Image and video denoising for distributed optical fibre sensors. Proceedings of SPIE, 2017, , .	0.8	7
53	Frequency-domain technique to measure the inertial response of forward stimulated Brillouin scattering for acoustic impedance sensing. Proceedings of SPIE, 2017, , .	0.8	15
54	Highly sensitive distributed birefringence measurements based on a two-pulse interrogation of a dynamic Brillouin grating. , 2017, , .		1

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55	Analytical expression and experimental validation of the Brillouin gain spectral broadening at any sensing spatial resolution. Proceedings of SPIE, 2017, , .	0.8	16
56	Polarisation pulling in Brillouin optical time-domain analysers. , 2017, , .		5
57	Closed-loop Controlled Brillouin Optical Time-Domain Analysis. , 2017, , .		0
58	Temperature-strain discrimination in distributed optical fiber sensing using phase-sensitive optical time-domain reflectometry. Optics Express, 2017, 25, 16059.	3.4	66
59	Resolving 1 million sensing points in an optimized differential time-domain Brillouin sensor. Optics Letters, 2017, 42, 1903.	3.3	36
60	All-optical flip-flop based on dynamic Brillouin gratings. , 2017, , .		0
61	All-optical flip-flops based on dynamic Brillouin gratings in fibers. Optics Letters, 2017, 42, 2539.	3.3	10
62	Optimization of Detection Schemes in BOTDA. , 2016, , .		3
63	Distributed shape sensing using Brillouin scattering in multi-core fibers. Optics Express, 2016, 24, 25211.	3.4	147
64	Characterisation of an electrical heating method for metallic-coated optical fibres for distributed sensing applications. Proceedings of SPIE, 2016, , .	0.8	0
65	Intensifying the response of distributed optical fibre sensors using 2D and 3D image restoration. Nature Communications, 2016, 7, 10870.	12.8	229
66	Optimal detection bandwidth for phase-sensitive optical time-domain reflectometry. Proceedings of SPIE, 2016, , .	0.8	4
67	Evaluation of the accuracy of BOTDA systems based on the phase spectral response. Optics Express, 2016, 24, 17200.	3.4	31
68	Increasing robustness of bipolar pulse coding in Brillouin distributed fiber sensors. Optics Express, 2016, 24, 586.	3.4	35
69	Going beyond 1000000 resolved points in a Brillouin distributed fiber sensor: theoretical analysis and experimental demonstration. Light: Science and Applications, 2016, 5, e16074-e16074.	16.6	140
70	Reaching millikelvin resolution in Raman distributed temperature sensing using image processing. Proceedings of SPIE, 2016, , .	0.8	7
71	Sub-metric spatial resolution over an extended range using differential time-domain Brillouin sensing. Proceedings of SPIE, 2016, , .	0.8	1
72	Novel technique for distributed fibre sensing based on coherent Rayleigh scattering measurements of birefringence. Proceedings of SPIE, 2016, , .	0.8	1

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73	Novel scanning method for distortion-free BOTDA measurements. Optics Express, 2016, 24, 10188.	3.4	50
74	Gain vs phase in BOTDA setups. Proceedings of SPIE, 2016, , .	0.8	1
75	Overcoming high-resolution limitations in optimized long-range BOTDA sensors. , 2016, , .		0
76	Novel Concepts and Recent Progress in Distributed Optical Fiber Sensing. , 2016, , .		0
77	200 km Fiber-Loop Conventional Brillouin Distributed Sensor with 2m Spatial Resolution Using Image Denoising. , 2016, , .		1
78	Analytical model and experimental verification of the critical power for modulation instability in optical fibers. Optics Express, 2015, 23, 29514.	3.4	114
79	200 km fiber-loop Brillouin distributed fiber sensor using bipolar Golay codes and a three-tone probe. Proceedings of SPIE, 2015, , .	0.8	2
80	Brillouin distributed fiber sensing at ultra-high spatial resolution. , 2015, , .		1
81	Performance limit of two-pump brillouin fiber sensors obtained by Manakov Modulation Instability. , 2015, , .		2
82	Differential chirped-pulse pair for sub-meter spatial resolution Brillouin distributed fiber sensing. , 2015, , .		0
83	Mitigation of modulation instability in Brillouin distributed fiber sensors by using orthogonal polarization pulses. , 2015, , .		6
84	Distributed phase birefringence measurements based on polarization correlation in phase-sensitive optical time-domain reflectometers. Optics Express, 2015, 23, 24923.	3.4	69
85	Sources of noise in Brillouin optical time-domain analyzers. , 2015, , .		10
86	Intensifying Brillouin distributed fibre sensors using image processing. , 2015, , .		7
87	Reaching the ultimate performance limit given by non-local effects in BOTDA sensors. , 2015, , .		1
88	Mapping the Uniformity of Optical Microwires Using Phase-Correlation Brillouin Distributed Measurements. , 2015, , .		1
89	Minimizing distortion and enlarging group delay in Brillouin slow light systems by gain profile optimization. , 2014, , .		2
90	Brillouin distributed fiber sensors: Practical limitations and guidelines for the making of a good sensor. , 2014, , .		2

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91	Power evolution along phase-sensitive parametric amplifiers: an experimental survey. Optics Letters, 2014, 39, 6114.	3.3	4
92	Enhanced response in Brillouin distributed optical fibre sensors by simultaneous time and frequency pump multiplexing. Proceedings of SPIE, 2014, , .	0.8	1
93	Towards 1â€™000â€™000 resolved points in a distributed optical fibre sensor. , 2014, , .		10
94	1â€™000â€™000 resolved points along a Brillouin distributed fibre sensor. , 2014, , .		9
95	MilliKelvin resolution in cryogenic temperature distributed fibre sensing based on coherent Rayleigh scattering. , 2014, , .		8
96	Time and frequency pump-probe multiplexing to enhance the signal response of Brillouin optical time-domain analyzers. Optics Express, 2014, 22, 28584.	3.4	34
97	Going beyond limits in Brillouin distributed fibre sensors: Challenges and possible approaches. , 2014, , .		0
98	Distributed birefringence measurements using polarisation correlation in phase-sensitive OTDR. , 2014, , .		0
99	Modelling the depletion length induced by modulation instability in distributed optical fibre sensors. , 2014, , .		8
100	Extending the Real Remoteness of Long-Range Brillouin Optical Time-Domain Fiber Analyzers. Journal of Lightwave Technology, 2014, 32, 152-162.	4.6	149
101	Towards highest spectral efficiency: Optical sinc-shaped Nyquist pulses generation from rectangular frequency comb. , 2014, , .		0
102	Effect of Dispersion Fluctuations on Longitudinal Gain Evolution in Phase-Sensitive Parametric Amplifiers. , 2014, , .		0
103	Optical sinc-shaped Nyquist pulses of exceptional quality. Nature Communications, 2013, 4, 2898.	12.8	195
104	Bipolar optical pulse coding for performance enhancement in BOTDA sensors. Optics Express, 2013, 21, 16390.	3.4	123
105	Modeling and evaluating the performance of Brillouin distributed optical fiber sensors. Optics Express, 2013, 21, 31347.	3.4	400
106	Highly sensitive dispersion map extraction from highly nonlinear fibers using BOTDA probing of parametric amplification. , 2013, , .		1
107	Study of Raman amplification in DPP-BOTDA sensing employing Simplex coding for sub-meter scale spatial resolution over long fiber distances. Measurement Science and Technology, 2013, 24, 094018.	2.6	8
108	RAMAN BASED DISTRIBUTED OPTICAL FIBER TEMPERATURE SENSORS: INDUSTRIAL APPLICATIONS AND FUTURE DEVELOPMENTS. , 2013, , 88-113.		0

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109	Time gated phase-correlation distributed Brillouin fibre sensor. , 2013, , .		12
110	Brillouin distributed fibre sensing using phase modulated probe. Proceedings of SPIE, 2013, , .	0.8	8
111	Colour simplex coding for brillouin distributed sensors. , 2013, , .		14
112	Mitigating modulation instability in Brillouin distributed fibre sensors. Proceedings of SPIE, 2013, , .	0.8	11
113	Generation of Nyquist sinc pulses using intensity modulators. , 2013, , .		24
114	Optical sinc-shaped Nyquist pulses with very low roll-off generated from a rectangular frequency comb. , 2013, , .		4
115	Highly tunable method to generate sinc-shaped Nyquist pulses from a rectangular frequency comb. , 2013, , .		2
116	Advanced Pulse Coding Techniques for Distributed Optical Fiber Sensors. , 2013, , .		0
117	Brillouin optical time-domain analysis over a 240 km-long fiber loop with no repeater. , 2012, , .		6
118	Optimization of a DPP-BOTDA sensor with 25 cm spatial resolution over 60 km standard single-mode fiber using Simplex codes and optical pre-amplification. Optics Express, 2012, 20, 6860.	3.4	61
119	Integrated hybrid Raman/fiber Bragg grating interrogation scheme for distributed temperature and point dynamic strain measurements. Applied Optics, 2012, 51, 7268.	1.8	12
120	Time/frequency coding for Brillouin distributed sensors. Proceedings of SPIE, 2012, , .	0.8	13
121	Bipolar pulse coding for enhanced performance in Brillouin distributed optical fiber sensors. Proceedings of SPIE, 2012, , .	0.8	2
122	Rating the performance of a Brillouin distributed fiber sensor. Proceedings of SPIE, 2012, , .	0.8	3
123	Raman-assisted DPP-BOTDA sensor employing Simplex coding with sub-meter scale spatial resolution over 93 km standard SMF. , 2012, , .		1
124	Simplex-Coded BOTDA Sensor Over 120-km SMF With 1-m Spatial Resolution Assisted by Optimized Bidirectional Raman Amplification. IEEE Photonics Technology Letters, 2012, 24, 1823-1826.	2.5	62
125	Hybrid BOTDA/FBG sensor for discrete dynamic and distributed static strain/temperature measurements. , 2012, , .		8
126	Double-pulse Brillouin distributed optical fiber sensors: analytical model and experimental validation. , 2012, , .		7

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127	Impact of Loss Variations on Double-Ended Distributed Temperature Sensors Based on Raman Anti-Stokes Signal Only. Journal of Lightwave Technology, 2012, 30, 1215-1222.	4.6	45
128	Enhanced-performance BOTDA sensing through optimized pulse coding and low-RIN bidirectional Raman amplification. , 2012, , .		0
129	Hybrid Raman/FBG-based Sensing for Simultaneous Point Dynamic Strain and Distributed Temperature Measurement. , 2012, , .		0
130	Long-range BOTDA sensing using optical pulse coding and single source bi-directional distributed Raman amplification. , 2011, , .		3
131	High-Performance Raman-Based Distributed Fiber-Optic Sensing Under a Loop Scheme Using Anti-Stokes Light Only. IEEE Photonics Technology Letters, 2011, 23, 534-536.	2.5	41
132	Optimization of long-range BOTDA sensors with high resolution using first-order bi-directional Raman amplification. Optics Express, 2011, 19, 4444.	3.4	95
133	Long-range simplex-coded BOTDA sensor over 120km distance employing optical preamplification. Optics Letters, 2011, 36, 232.	3.3	107
134	Raman-based distributed temperature sensor with 1â€‰m spatial resolution over 26â€‰km SMF using low-repetition-rate cyclic pulse coding. Optics Letters, 2011, 36, 2557.	3.3	96
135	BOTDA sensor with 2-m spatial resolution over 120 km distance using bi-directional distributed Raman amplification. , 2011, , .		3
136	Distributed optical fiber temperature sensor using only anti-Stokes Raman scattering light in a loop configuration. , 2011, , .		0
137	Advanced cyclic coding technique for long-range Raman DTS systems with meter-scale spatial resolution over standard SMF. , 2011, , .		11
138	Enhanced distributed hybrid sensor based on Brillouin and Raman scattering combining Fabry-Perot lasers and optical pulse coding. , 2010, , .		2
139	Impact of the pulse modulation format on distributed BOTDA sensors based on Simplex coding. Proceedings of SPIE, 2010, , .	0.8	0
140	Optical pulse coding in hybrid distributed sensing based on Raman and Brillouin scattering employing Fabryâ€“Perot lasers. Optics Express, 2010, 18, 8459.	3.4	32
141	Analysis of pulse modulation format in coded BOTDA sensors. Optics Express, 2010, 18, 14878.	3.4	87
142	Simplex-coded BOTDA fiber sensor with 1 m spatial resolution over a 50 km range. Optics Letters, 2010, 35, 259.	3.3	284
143	Long-range Brillouin optical time-domain analysis sensor employing pulse coding techniques. Measurement Science and Technology, 2010, 21, 094024.	2.6	47
144	SNR enhancement of Raman-based long-range distributed temperature sensors using cyclic Simplex codes. Electronics Letters, 2010, 46, 1221.	1.0	33

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145	Simultaneous distributed strain and temperature sensing based on combined Ramanâ€“Brillouin scattering using Fabryâ€“Perot lasers. Measurement Science and Technology, 2010, 21, 094025.	2.6	12
146	Per-band link control transients protection in distributed fiber Raman amplifier cascades. , 2009, , .		2
147	Distributed optical fibre sensors based on spontaneous Brillouin scattering employing multimode Fabry-Pelrot lasers. Electronics Letters, 2009, 45, 1071.	1.0	7
148	Enhanced Simultaneous Distributed Strain and Temperature Fiber Sensor Employing Spontaneous Brillouin Scattering and Optical Pulse Coding. IEEE Photonics Technology Letters, 2009, 21, 450-452.	2.5	47
149	Fiber-Optic Distributed Sensor Based on Hybrid Raman and Brillouin Scattering Employing Multiwavelength Fabryâ€“PÃ‰rot Lasers. IEEE Photonics Technology Letters, 2009, 21, 1523-1525.	2.5	27
150	Distributed strain and temperature sensing over 50 km of SMF with 1 m spatial resolution employing BOTDA and optical pulse coding. , 2009, , .		2
151	Use of Fabry-PÃƒÂƒÃ‚Â©rot lasers for simultaneous distributed strain and temperature sensing based on hybrid Raman and Brillouin scattering. Proceedings of SPIE, 2009, , .	0.8	0
152	Performance improvement in Brillouin-based simultaneous strain and temperature sensors employing pulse coding in coherent detection schemes. , 2009, , .		0
153	30-km spontaneous-Brillouin distributed temperature sensor employing Simplex-coding and low optical input power. , 2008, , .		3
154	Analysis of optical pulse coding in spontaneous Brillouin-based distributed temperature sensors. Optics Express, 2008, 16, 19097.	3.4	65
155	Brillouin-Based Distributed Temperature Sensor Employing Pulse Coding. IEEE Sensors Journal, 2008, 8, 225-226.	4.7	50
156	Optical pulse coding applied to distributed temperature sensor using coherent detection of spontaneous Brillouin frequency shift. , 2008, , .		0
157	Impairments in Gain-Equalized Distributed Fiber Raman Amplifiers due to Four-Wave Mixing and Parametric Amplification Processes. AIP Conference Proceedings, 2008, , .	0.4	0
158	Redistribution of pump power and impairments in gain-equalized distributed fiber Raman amplifiers due to four-wave mixing and parametric amplification. Journal of Optics, 2008, 10, 104004.	1.5	1
159	Analysis of Brillouin-Based Distributed Fiber Sensors Using Optical Pulse Coding. , 2008, , .		3
160	Analysis of distributed temperature sensing based on Raman scattering using OTDR coding and discrete Raman amplification. Measurement Science and Technology, 2007, 18, 3211-3218.	2.6	97
161	High performance and highly reliable Raman-based distributed temperature sensors based on correlation-coded OTDR and multimode graded-index fibers. Proceedings of SPIE, 2007, , .	0.8	16
162	Distributed temperature sensor system based on Raman scattering using correlation-codes. Electronics Letters, 2007, 43, 862.	1.0	41

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163	Four wave mixing effects in gain-equalized distributed fiber raman amplifiers. , 2007, , .		3