Christophe Caucheteur

List of Publications by Year
in descending order

154 papers	6,044 citations	76326 40 h-index	76900 74 g-index
154 all docs	154 docs citations	154 times ranked	4223 citing authors

#	Article	IF	Citations
1	Tilted fiber Bragg grating sensors. Laser and Photonics Reviews, 2013, 7, 83-108.	8.7	565
2	Review of plasmonic fiber optic biochemical sensors: improving the limit of detection. Analytical and Bioanalytical Chemistry, 2015, 407, 3883-3897.	3.7	556
3	Fiber Bragg Grating Sensors toward Structural Health Monitoring in Composite Materials: Challenges and Solutions. Sensors, 2014, 14, 7394-7419.	3.8	404
4	Toward Commercial Polymer Fiber Bragg Grating Sensors: Review and Applications. Journal of Lightwave Technology, 2019, 37, 2605-2615.	4.6	185
5	Ultrasensitive plasmonic sensing in air using optical fibre spectral combs. Nature Communications, 2016, 7, 13371.	12.8	183
6	Cancer biomarker sensing using packaged plasmonic optical fiber gratings: Towards in vivo diagnosis. Biosensors and Bioelectronics, 2017, 92, 449-456.	10.1	149
7	High resolution interrogation of tilted fiber grating SPR sensors from polarization properties measurement. Optics Express, 2011, 19, 1656.	3.4	140
8	Rapid Detection of Circulating Breast Cancer Cells Using a Multiresonant Optical Fiber Aptasensor with Plasmonic Amplification. ACS Sensors, 2020, 5, 454-463.	7.8	120
9	Highly sensitive detection of molecular interactions with plasmonic optical fiber grating sensors. Biosensors and Bioelectronics, 2014, 51, 249-254.	10.1	106
10	Near-infrared grating-assisted SPR optical fiber sensors: design rules for ultimate refractometric sensitivity. Optics Express, 2015, 23, 2918.	3.4	104
11	Small biomolecule immunosensing with plasmonic optical fiber grating sensor. Biosensors and Bioelectronics, 2016, 77, 315-322.	10.1	97
12	Plasmonic Optical Fiber-Grating Immunosensing: A Review. Sensors, 2017, 17, 2732.	3.8	96
13	Review of Trackside Monitoring Solutions: From Strain Gages to Optical Fibre Sensors. Sensors, 2015, 15, 20115-20139.	3.8	85
14	Functionalized etched tilted fiber Bragg grating aptasensor for label-free protein detection. Biosensors and Bioelectronics, 2019, 146, 111765.	10.1	85
15	HER2 breast cancer biomarker detection using a sandwich optical fiber assay. Talanta, 2021, 221, 121452.	5.5	85
16	Hybrid fiber gratings coated with a catalytic sensitive layer for hydrogen sensing in air. Optics Express, 2008, 16, 16854.	3.4	83
17	Polarized spectral combs probe optical fiber surface plasmons. Optics Express, 2013, 21, 3055.	3.4	80
18	Polarization-Assisted Fiber Bragg Grating Sensors: Tutorial and Review. Journal of Lightwave Technology, 2017, 35, 3311-3322.	4.6	79

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19	All-fiber tunable optical delay line. Optics Express, 2010, 18, 3093.	3.4	78
20	High resolution grating-assisted surface plasmon resonance fiber optic aptasensor. Methods, 2013, 63, 239-254.	3.8	78
21	Non-enzymatic D-glucose plasmonic optical fiber grating biosensor. Biosensors and Bioelectronics, 2019, 142, 111506.	10.1	77
22	Direct writing of plane-by-plane tilted fiber Bragg gratings using a femtosecond laser. Optics Letters, 2017, 42, 5198.	3.3	75
23	Label-free plasmonic immunosensor for cortisol detection in a D-shaped optical fiber. Biomedical Optics Express, 2022, 13, 3259.	2.9	73
24	Polarization effects in polymer FBGs: study and use for transverse force sensing. Optics Express, 2015, 23, 4581.	3.4	71
25	In situ cancer diagnosis through online plasmonics. Biosensors and Bioelectronics, 2019, 131, 104-112.	10.1	68
26	Femtosecond-laser-induced highly birefringent Bragg gratings in standard optical fiber. Optics Letters, 2013, 38, 594.	3.3	62
27	Molecularly imprinted electropolymerization on a metal-coated optical fiber for gas sensing applications. Sensors and Actuators B: Chemical, 2017, 244, 1145-1151.	7.8	61
28	Fiber-Optic SPR Immunosensors Tailored To Target Epithelial Cells through Membrane Receptors. Analytical Chemistry, 2015, 87, 5957-5965.	6.5	58
29	Highly reflective Bragg gratings in slightly etched step-index polymer optical fiber. Optics Express, 2014, 22, 18807.	3.4	57
30	Selective detection of cadmium ions using plasmonic optical fiber gratings functionalized with bacteria. Optics Express, 2020, 28, 19740.	3.4	50
31	Cortisol in-fiber ultrasensitive plasmonic immunosensing. IEEE Sensors Journal, 2020, , 1-1.	4.7	49
32	HER2 biosensing through SPR-envelope tracking in plasmonic optical fiber gratings. Biomedical Optics Express, 2020, 11, 4862.	2.9	49
33	Tilted Bragg gratings in step-index polymer optical fiber. Optics Letters, 2014, 39, 6835.	3.3	47
34	Bragg Gratings and Fabry-Perot Cavities in Low-Loss Multimode CYTOP Polymer Fiber. IEEE Photonics Technology Letters, 2018, 30, 857-860.	2.5	47
35	Shear stress sensing with Bragg grating-based sensors in microstructured optical fibers. Optics Express, 2013, 21, 20404.	3.4	46
36	High-refractive-index transparent coatings enhance the optical fiber cladding modes refractometric sensitivity. Optics Express, 2013, 21, 29073.	3.4	45

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37	Electrochemical Plasmonic Fiber-optic Sensors for Ultra-Sensitive Heavy Metal Detection. Journal of Lightwave Technology, 2019, 37, 3495-3502.	4.6	45
38	Narrow bandwidth fiber-optic spectral combs for renewable hydrogen detection. Science China Information Sciences, 2020, 63, 1.	4.3	45
39	Cytokeratins Biosensing Using Tilted Fiber Gratings. Biosensors, 2018, 8, 74.	4.7	44
40	Experimental demonstration of optical parametric chirped pulse amplification in optical fiber. Optics Letters, 2010, 35, 1786.	3.3	42
41	Surface Plasmon Resonances in Oriented Silver Nanowire Coatings on Optical Fibers. Journal of Physical Chemistry C, 2014, 118, 11035-11042.	3.1	42
42	Palladium-coated plasmonic optical fiber gratings for hydrogen detection. Optics Letters, 2019, 44, 4483.	3.3	41
43	Surface plasmon resonance sensing in gaseous media with optical fiber gratings. Optics Letters, 2018, 43, 2308.	3.3	40
44	Fast thermal regeneration of fiber Bragg gratings. Optics Letters, 2013, 38, 4178.	3.3	38
45	Plasmonic Fiber Grating Biosensors Demodulated Through Spectral Envelopes Intersection. Journal of Lightwave Technology, 2021, 39, 7288-7295.	4.6	38
46	Overview and emerging trends in optical fiber aptasensing. Biosensors and Bioelectronics, 2022, 196, 113694.	10.1	38
47	Control Over the Pressure Sensitivity of Bragg Grating-Based Sensors in Highly Birefringent Microstructured Optical Fibers. IEEE Photonics Technology Letters, 2012, 24, 527-529.	2.5	37
48	Behavior of femtosecond laser-induced eccentric fiber Bragg gratings at very high temperatures. Optics Letters, 2016, 41, 4048.	3.3	37
49	Railway monitoring system using optical fiber grating accelerometers. Smart Materials and Structures, 2018, 27, 105033.	3.5	37
50	Mode-division and spatial-division optical fiber sensors. Advances in Optics and Photonics, 2022, 14, 1.	25.5	37
51	Interrogation technique for TFBG-SPR refractometers based on differential orthogonal light states. Applied Optics, 2011, 50, 4257.	2.1	36
52	Surface plasmon excitation at near-infrared wavelengths in polymer optical fibers. Optics Letters, 2015, 40, 3998.	3.3	35
53	FBGs written in specialty fiber for high pressure/high temperature measurement. Optics Express, 2017, 25, 17936.	3.4	35
54	BDK-doped core microstructured PMMA optical fiber for effective Bragg grating photo-inscription. Optics Letters, 2017, 42, 2209.	3.3	34

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55	Residual strain monitoring of out-of-autoclave cured parts by use of polarization dependent loss measurements in embedded optical fiber Bragg gratings. Composites Part A: Applied Science and Manufacturing, 2013, 52, 38-44.	7.6	33
56	Narrowband interrogation of plasmonic optical fiber biosensors based on spectral combs. Optics and Laser Technology, 2017, 96, 141-146.	4.6	33
57	Polymer optical fiber Bragg grating inscription with a single Nd:YAG laser pulse. Optics Express, 2018, 26, 18096.	3.4	32
58	Influence of the Grating Parameters on the Polarization Properties of Fiber Bragg Gratings. Journal of Lightwave Technology, 2009, 27, 1000-1010.	4.6	31
59	Theoretical and experimental study of differential group delay and polarization dependent loss of Bragg gratings written in birefringent fiber. Optics Communications, 2007, 269, 331-337.	2.1	30
60	Railway structure monitoring solutions using fibre Bragg grating sensors. International Journal of Rail Transportation, 2016, 4, 135-150.	2.7	30
61	Optical Fiber Gratings Immunoassays. Sensors, 2019, 19, 2595.	3.8	30
62	Thermal Profile Detection Through High-Sensitivity Fiber Optic Chirped Bragg Grating on Microstructured PMMA Fiber. Journal of Lightwave Technology, 2018, 36, 4723-4729.	4.6	29
63	External Refractive Index Sensitivity of Weakly Tilted Fiber Bragg Gratings With Different Coating Thicknesses. IEEE Sensors Journal, 2008, 8, 1330-1336.	4.7	28
64	Microstructured PMMA POF chirped Bragg gratings for strain sensing. Optical Fiber Technology, 2018, 45, 330-335.	2.7	28
65	Multimodal plasmonic optical fiber grating aptasensor. Optics Express, 2020, 28, 7539.	3.4	28
66	Original interrogation system for quasi-distributed FBG-based temperature sensor with fast demodulation technique. Sensors and Actuators A: Physical, 2009, 150, 192-198.	4.1	27
67	CYTOP Fibre Bragg Grating Sensors for Harsh Radiation Environments. Sensors, 2019, 19, 2853.	3.8	27
68	Largely tunable dispersion chirped polymer FBG. Optics Letters, 2018, 43, 5106.	3.3	27
69	Negative axial strain sensitivity in gold-coated eccentric fiber Bragg gratings. Scientific Reports, 2016, 6, 38042.	3.3	25
70	Functionalized gold electroless-plated optical fiber gratings for reliable surface biosensing. Sensors and Actuators B: Chemical, 2019, 280, 54-61.	7.8	25
71	Implementation of a Mobile Platform Based on Fiber Bragg Grating Sensors for Automotive Traffic Monitoring. Sensors, 2020, 20, 1567.	3.8	24
72	[INVITED] Cell sensing with near-infrared plasmonic optical fiber sensors. Optics and Laser Technology, 2016, 78, 116-121.	4.6	23

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73	Temperature-insensitive polarimetric vibration sensor based on HiBi microstructured optical fiber. Applied Optics, 2012, 51, 6130.	1.8	21
74	Edge-filter technique and dominant frequency analysis for high-speed railway monitoring with fiber Bragg gratings. Smart Materials and Structures, 2016, 25, 075029.	3.5	21
75	Polarization properties of uniform fiber Bragg gratings written in highly birefringent fibers. Optics Communications, 2005, 247, 239-245.	2.1	20
76	Quasi-distributed refractometer using tilted Bragg gratings and time domain reflectometry. Optics Express, 2008, 16, 17882.	3.4	20
77	Surface plasmon resonance in eccentric femtosecond-laser-induced fiber Bragg gratings. Optics Letters, 2014, 39, 6887.	3.3	20
78	Control over photo-inscription and thermal annealing to obtain high-quality Bragg gratings in doped PMMA optical fibers. Optics Letters, 2016, 41, 2930.	3.3	20
79	Plasmonic sensors based on tilted Bragg gratings in multicore optical fibers. Optics Express, 2021, 29, 18469.	3.4	20
80	Ultralow Limit Detection of Soluble HER2 Biomarker in Serum with a Fiber-Optic Ball-Tip Resonator Assisted by a Tilted FBG. ACS Measurement Science Au, 2022, 2, 309-316.	4.4	19
81	Fiber Bragg grating regeneration at 450Â°C for improved high temperature sensing. Optics Letters, 2019, 44, 4036.	3.3	18
82	Fast and slow light in optical fibers through tilted fiber Bragg gratings. Optics Express, 2009, 17, 23502.	3.4	14
83	Ultra-fast fiber Bragg grating inscription in CYTOP polymer optical fibers using phase mask and 400 nm femtosecond laser. Optics Express, 2021, 29, 25824.	3.4	14
84	Bragg grating inscription in PMMA optical fibers using 400-nm femtosecond pulses. Optics Letters, 2017, 42, 2794.	3.3	14
85	Tilted Bragg grating multipoint sensor based on wavelength-gated cladding-modes coupling. Applied Optics, 2009, 48, 3915.	2.1	13
86	Comparison of the Radiation Sensitivity of Fiber Bragg Gratings Made by Four Different Manufacturers. IEEE Transactions on Nuclear Science, 2011, 58, 906-909.	2.0	13
87	Hybrid fiber grating cavityâ€˜for multi-parametric sensing. Optics Express, 2010, 18, 10473.	3.4	12
88	Reversible NO2 Optical Fiber Chemical Sensor Based on LuPc2 Using Simultaneous Transmission of UV and Visible Light. Sensors, 2015, 15, 9870-9881.	3.8	12
89	800â€‰â€‰nm femtosecond pulses for direct inscription of FBGs in CYTOP polymer optical fiber. Optics Letters, 2021, 46, 4272.	3.3	12
90	Effect of hydrogen gas on FBG-based optical fiber sensors for downhole pressure and temperature monitoring. Optics Express, 2019, 27, 5487.	3.4	12

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91	Fiber Bragg grating sensor demodulation technique by synthesis of grating parameters from its reflection spectrum. Optics Communications, 2004, 240, 329-336.	2.1	11
92	Higher-order cladding mode excitation of femtosecond-laser-inscribed tilted FBGs. Optics Letters, 2018, 43, 2169.	3.3	11
93	Long-range surface plasmons on gold-coated single-mode fibers. Journal of the Optical Society of America B: Optical Physics, 2014, 31, 2354.	2.1	10
94	Distribution profiling of a transverse load using the DGD spectrum of chirped FBGs. Optics Express, 2015, 23, 18203.	3.4	10
95	Anomalous transparency in photonic crystals and its application to point-by-point grating inscription in photonic crystal fibers. Scientific Reports, 2018, 8, 5470.	3.3	10
96	Bragg Gratings Inscription in TS-Doped PMMA POF by Using 248-nm KrF Pulses. IEEE Photonics Technology Letters, 2018, 30, 1609-1612.	2.5	10
97	PfHRP2 detection using plasmonic optrodes: performance analysis. Malaria Journal, 2021, 20, 332.	2.3	10
98	Femtosecond laser point-by-point Bragg grating inscription in BDK-doped step-index PMMA optical fibers. Optics Letters, 2022, 47, 249.	3.3	10
99	Optimization of Cladding Diameter for Refractive Index Sensing in Tilted Fiber Bragg Gratings. Sensors, 2022, 22, 2259.	3.8	10
100	Femtosecond Laser Inscribed Tilted Gratings for Leaky Mode Excitation in Optical Fibers. Journal of Lightwave Technology, 2020, 38, 1921-1928.	4.6	9
101	Hot water-assisted fabrication of chirped polymer optical fiber Bragg gratings. Optics Express, 2018, 26, 34655.	3.4	9
102	Partially gold-coated tilted FBGs for enhanced surface biosensing. Optics Express, 2022, 30, 16518.	3.4	9
103	Time Delay Measurements as Promising Technique for Tilted Fiber Bragg Grating Sensors Interrogation. IEEE Photonics Technology Letters, 2009, 21, 1752-1754.	2.5	8
104	Optical Fibre NO2 Sensor Based on Lutetium Bisphthalocyanine in a Mesoporous Silica Matrix. Sensors, 2018, 18, 740.	3.8	8
105	Direct Bragg Grating Inscription in Single Mode Step-Index TOPAS/ZEONEX Polymer Optical Fiber Using 520 nm Femtosecond Pulses. Polymers, 2022, 14, 1350.	4.5	8
106	Anomalous effective strain-optic constants of nonparaxial optical fiber modes. Optics Letters, 2014, 39, 578.	3.3	7
107	Thermal Regeneration of Tilted Bragg Gratings UV Photo-Inscribed in Hydrogen-Loaded Standard Optical Fibers. Journal of Lightwave Technology, 2021, 39, 3582-3590.	4.6	7
108	Fiber Bragg grating characterization using factorial design. Applied Optics, 2019, 58, 4898.	1.8	7

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109	Plasmon-Enhanced Refractometry Through Cladding Mode Excitation by a Fiber Bragg Grating in Photonic Crystal Fiber. Journal of Lightwave Technology, 2022, 40, 1121-1129.	4.6	7
110	Smart Railway Traffic Monitoring Using Fiber Bragg Grating Strain Gauges. Sensors, 2022, 22, 3429.	3.8	7
111	Multiresonant Fiber Gratings. Optics and Photonics News, 2022, 33, 42.	0.5	7
112	Wavelength dependency of degree of polarization for uniform Bragg gratings written into polarization maintaining optical fibers. Optics Communications, 2005, 247, 325-333.	2.1	5
113	Infrared Radiation Detection With Matched Fiber Bragg Gratings. IEEE Photonics Technology Letters, 2010, 22, 1732-1734.	2.5	5
114	Measurement of magnetic field using Rayleigh backscattering in optical fibres. , 2011, , .		5
115	Self-Referenced Photon Counting OTDR Technique for Quasi-Distributed Fiber Bragg Gratings Sensors. IEEE Sensors Journal, 2012, 12, 118-123.	4.7	5
116	Tilted fiber Bragg gratings as a new sensing device for in situ and real time monitoring of surface-initiated polymerization. Polymer Chemistry, 2014, 5, 2506.	3.9	5
117	Infrared radiation detector interrogated by optical frequency-domain reflectometer. Optics and Lasers in Engineering, 2012, 50, 308-311.	3.8	4
118	Tilted Fiber Bragg Grating Inscription in Boron Co-Doped Photosensitive Optical Fiber Using 266 nm Solid State Laser Pulses. IEEE Sensors Journal, 2022, 22, 2229-2236.	4.7	4
119	Relevance of the Spectral Analysis Method of Tilted Fiber Bragg Grating-Based Biosensors: A Case-Study for Heart Failure Monitoring. Sensors, 2022, 22, 2141.	3.8	4
120	High-temperature resistance refractometric sensors based on regenerated TFBGs. , 2020, , .		3
121	Refractometric sensing with plasmonic tilted Bragg gratings in different fiber types. , 2020, , .		3
122	Hydrogen leak optical sensor using radiating fiber gratings. , 2008, , .		2
123	PDL and DGD Reduction in Bragg Gratings Using Twisted Fibers for the Inscription. IEEE Photonics Technology Letters, 2009, 21, 1689-1691.	2.5	2
124	Comparison of regenerated fiber Bragg gratings properties in standard and B/Ge co-doped single-mode silica fibers. , 2020, , .		2
125	An L-band ultrasonic probe using polymer optical fibre. , 2019, , .		2
126	Quasi-distributed measurement of surrounding refractive index using photon-counting time domain reflectometry. , 2011, , .		1

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127	Photothermal Group Delay Tuning in Nonpermanently Phase-Shifted Chirped FBGs. IEEE Photonics Technology Letters, 2012, 24, 557-559.	2.5	1
128	Biochemical sensing with Surface Plasmon-assisted optical fibers. , 2013, , .		1
129	Analysis of the intrinsic refractometric sensitivity of optical fiber plasmonic sensors. Proceedings of SPIE, 2014, , .	0.8	1
130	Biofunctionalized surface-Plasmon optical fiber grating sensors. , 2014, , .		1
131	Intrinsic Fabry-Perot Sensors for Magnetic Field Detection. EPJ Web of Conferences, 2018, 170, 02001.	0.3	1
132	A Trackside Sensor System for Train Axle Counting by Fiber Bragg Grating Accelerometer. , 2018, , .		1
133	Fibre Bragg gratings wavelength evolution and thermal sensitivity under gamma irradiation. , 2019, , .		1
134	Femtosecond laser point-by-point Bragg grating inscription in BDK-doped step-index PMMA optical fibers: erratum. Optics Letters, 2022, 47, 3547.	3.3	1
135	Macromolecular detection of streptavidin with gold-coated tilted FBG refractometers. Proceedings of SPIE, 2012, , .	0.8	0
136	Plasmonics on Fibers Coated with Metal Nanoparticles. , 2012, , .		0
137	Optical Excitation of Metal Nanoparticles by Optical Fiber Cladding Mode Wavelength Combs. , 2013, , .		0
138	Long-Range Surface Plasmon Polariton Excitation Using Tilted Fiber Bragg Gratings. , 2014, , .		0
139	Surface Waves on Optical Fibers for Biochemical Sensing and Plasmonics. , 2014, , .		0
140	Highly reflective Bragg gratings in slightly etched polymer optical fibers and their application for sensing. , 2015, , .		0
141	Visible vs near-infrared optical fiber plasmonics: performance comparison for protein sensing. , 2016, , .		0
142	Near-infrared spectral combs probe molecular interactions. , 2016, , .		0
143	Immunosensing with Near-Infrared Plasmonic Optical Fiber Gratings. Methods in Molecular Biology, 2017, 1571, 47-71.	0.9	0
144	Optical power-based interrogation of Near-infrared fibre grating spectral combs. , 2017, , .		0

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145	Fiber Grating Devices. , 2018, , 1-27.		0
146	Signal Processing, Management and Monitoring in Transmission Networks. Signals and Communication Technology, 2011, , 53-122.	0.5	0
147	Immunosensing using Narrowband Cladding Mode Resonances. , 2018, , .		0
148	Cost-effective optical fiber gas leakage detector around buried pipelines. , 2018, , .		0
149	Requirements for surface plasmon resonance excitation in air with slightly tilted fiber Bragg gratings. , 2018, , .		0
150	Coating influence on the refractometric sensitivity of plasmonic optical fiber grating spectral combs. , 2018, , .		0
151	Fiber Grating Devices. , 2019, , 1351-1377.		0
152	Optical fiber gratings: hybrid gold structures for immunoassays. , 2019, , .		0
153	Plasmonic Optical Fiber Grating Aptasensing. , 2020, , .		0
154	Plasmonic optical fiber grating biomedical aptasensor. , 2021, , .		0