Ginu Rajan

List of Publications by Year in descending order

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134 papers	2,102 citations	257450 24 h-index	289244 40 g-index
138 all docs	138 docs citations	138 times ranked	1765 citing authors

#	Article	IF	Citations
1	Dental resin composites: A review on materials to product realizations. Composites Part B: Engineering, 2022, 230, 109495.	12.0	71
2	An approach for process optimisation of the Automated Fibre Placement (AFP) based thermoplastic composites manufacturing using Machine Learning, photonic sensing and thermo-mechanics modelling. Manufacturing Letters, 2022, 32, 10-14.	2.2	11
3	Evaluation of rheological behaviour of flowable dental composites reinforced with low aspect ratio micro-sized glass fibres. Dental Materials, 2021, 37, 131-142.	3.5	10
4	Distributed Fibre Optic Sensor-Based Continuous Strain Measurement along Semicircular Paths Using Strain Transformation Approach. Sensors, 2021, 21, 782.	3.8	4
5	Fibre Bragg Grating Based Acoustic Emission Measurement System for Structural Health Monitoring Applications. Materials, 2021, 14, 897.	2.9	27
6	Dimensional stability of short fibre reinforced flowable dental composites. Scientific Reports, 2021, 11, 4697.	3.3	16
7	Evaluation of depth-wise post-gel polymerisation shrinkage behaviour of flowable dental composites. Journal of the Mechanical Behavior of Biomedical Materials, 2021, 124, 104860.	3.1	8
8	Post-gel polymerisation shrinkage profiling of polymer biomaterials using a chirped fibre Bragg grating. Scientific Reports, 2021, 11, 1410.	3.3	3
9	Distributed Fiber Optic Sensor-Based Strain Monitoring of a Riveted Bridge Joint Under Fatigue Loading. IEEE Transactions on Instrumentation and Measurement, 2021, 70, 1-10.	4.7	4
10	Clinical utility of pressure feedback to socket design and fabrication. Prosthetics and Orthotics International, 2020, 44, 18-26.	1.0	8
11	Acoustic emission and finite element study on the influence of cusp angles on zirconia dental crowns. Dental Materials, 2020, 36, 1524-1535.	3.5	2
12	Cold Crack Monitoring and Localization in Welding Using Fiber Bragg Grating Sensors. IEEE Transactions on Instrumentation and Measurement, 2020, 69, 9228-9236.	4.7	21
13	Hybrid engineered dental composites by multiscale reinforcements with chitosan-integrated halloysite nanotubes and S-glass fibers. Composites Part B: Engineering, 2020, 202, 108448.	12.0	19
14	Physical and mechanical characterisation of flowable dental composites reinforced with short aspect ratio micro-sized S-Glass fibres. Materials Science and Engineering C, 2020, 111, 110771.	7.3	21
15	Smart orthopaedic implants: A targeted approach for continuous postoperative evaluation in the spine. Journal of Biomechanics, 2020, 104, 109690.	2.1	19
16	Influence of Surface Treatment on the Interfacial and Mechanical Properties of Short S-Glass Fiber-Reinforced Dental Composites. ACS Applied Materials & Interfaces, 2019, 11, 32328-32338.	8.0	31
17	The Study of the Directional Sensitivity of Fiber Bragg Gratings for Acoustic Emission Measurements. IEEE Sensors Journal, 2019, 19, 6771-6777.	4.7	9
18	Automated fibre placement based composite structures: Review on the defects, impacts and inspections techniques. Composite Structures, 2019, 224, 110987.	5.8	143

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19	Simultaneous Measurement of Normal and Shear Stress Using Fiber Bragg Grating Sensors in Prosthetic Applications. IEEE Sensors Journal, 2019, 19, 7383-7390.	4.7	17
20	Online Monitoring and Prediction of Thermo-Mechanics of AFP Based Thermoplastic Composites. Sensors, 2019, 19, 1310.	3.8	17
21	Polymerisation Shrinkage Profiling of Dental Composites using Optical Fibre Sensing and their Correlation with Degree of Conversion and Curing Rate. Scientific Reports, 2019, 9, 3162.	3.3	19
22	Selective Atomic-Level Etching on Short S-Glass Fibres to Control Interfacial Properties for Restorative Dental Composites. Scientific Reports, 2019, 9, 3851.	3.3	16
23	Solid Core Single-Mode Polymer Fiber Gratings and Sensors. , 2019, , 1-39.		0
24	Solid Core Single-Mode Polymer Fiber Gratings and Sensors. , 2019, , 1997-2035.		0
25	Characterization of process-induced defects in automated fiber placement manufacturing of composites using fiber Bragg grating sensors. Structural Health Monitoring, 2018, 17, 108-117.	7.5	48
26	Fabrication and Characterization of a Magnetized Metal-Encapsulated FBG Sensor for Structural Health Monitoring. IEEE Sensors Journal, 2018, 18, 8739-8746.	4.7	13
27	Solid Core Single-Mode Polymer Fiber Gratings and Sensors. , 2018, , 1-39.		0
28	Laser Self-Mixing Fiber Bragg Grating Sensor for Acoustic Emission Measurement. Sensors, 2018, 18, 1956.	3.8	26
29	Ballast Breakage Analysis Using FBG Acoustic Emission Measurement System. Geotechnical and Geological Engineering, 2017, 35, 1239-1247.	1.7	6
30	In-situ simultaneous measurement of strain and temperature in automated fiber placement (AFP) using optical fiber Bragg grating (FBG) sensors. Advanced Manufacturing: Polymer and Composites Science, 2017, 3, 52-61.	0.4	10
31	Etched Polymer Fibre Bragg Gratings and Their Biomedical Sensing Applications. Sensors, 2017, 17, 2336.	3.8	8
32	High Frequency Fibre Bragg Grating Interrogator for Monitoring Rock Cracking Events for Mining Applications. , 2017, , .		3
33	Introduction to Optical Fiber Sensors. , 2017, , 1-12.		3
34	Overview of Fiber Optic Sensor Technologies for Strain/Temperature Sensing Applications in Composite Materials. Sensors, 2016, 16, 99.	3.8	255
35	Optical fiber Bragg grating sensors for process monitoring in advanced composites. , 2016, , .		6
36	High-sensitivity polymer fibre Bragg grating sensor for biomedical applications. , 2016, , .		1

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37	In situ process monitoring for automated fibre placement using fibre Bragg grating sensors. Structural Health Monitoring, 2016, 15, 706-714.	7.5	27
38	Thermal sensitivity and relaxation of carbon fibre-foam sandwich composites with fibre optic sensors. Journal of Sandwich Structures and Materials, 2016, 18, 652-664.	3.5	10
39	Evaluation of the physical properties of dental resin composites using optical fiber sensing technology. Dental Materials, 2016, 32, 1113-1123.	3.5	27
40	Fibre optic acoustic emission sensor system for hydrogen induced cold crack monitoring in welding applications. , 2016, , .		4
41	Fibre optic acoustic emission measurement technique for crack activity monitoring in civil engineering applications. , 2016, , .		3
42	Etching Process Related Changes and Effects on Solid-Core Single-Mode Polymer Optical Fiber Grating. IEEE Photonics Journal, 2016, 8, 1-9.	2.0	17
43	High Intrinsic Sensitivity Etched Polymer Fiber Bragg Grating Pair for Simultaneous Strain and Temperature Measurements. IEEE Sensors Journal, 2016, 16, 2453-2459.	4.7	38
44	High Sensitivity Polymer Fibre Bragg Grating Sensors and Devices. Springer Series in Materials Science, 2016, , 289-314.	0.6	1
45	Twist effect and sensing of few mode polymer fibre Bragg gratings. Optics Communications, 2016, 359, 411-418.	2.1	9
46	Etched Polymer Fibre Bragg Gratings. , 2016, , .		0
47	Fibre Bragg Grating Based Characterization System for Dental Resin Composites. , 2016, , .		0
48	Simple method for measuring the linewidth enhancement factor of semiconductor lasers. Applied Optics, 2015, 54, 10295.	2.1	11
49	Polymer Fibre Bragg Gratings and Sensing. , 2015, , .		0
50	Polymer micro and microstructured fiber Bragg gratings. , 2015, , 207-227.		0
51	Simultaneous strain and temperature measurement with enhanced intrinsic sensitivity using etched polymer fibre Bragg gratings. Proceedings of SPIE, 2015, , .	0.8	0
52	Experimental Study and Analysis of Hydrostatic Pressure Sensitivity of Polymer Fibre Bragg Gratings. Journal of Lightwave Technology, 2015, 33, 2456-2462.	4.6	52
53	Intrinsic High-Sensitivity Sensors Based on Etched Single-Mode Polymer Optical Fibers. IEEE Photonics Technology Letters, 2015, 27, 604-607.	2.5	36
54	Polymer fiber Bragg grating force sensors for minimally invasive surgical devices. Proceedings of SPIE, 2015, , .	0.8	1

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55	Inscription of Multiple Bragg Gratings in a Single-Mode Polymer Optical Fiber Using a Single Phase Mask and Its Analysis. IEEE Sensors Journal, 2014, 14, 2384-2388.	4.7	14
56	Investigation of the effect of vibration amplitude on vibration measurements of polarimetric fiber sensors embedded in composite beams. Smart Materials and Structures, 2014, 23, 045037.	3.5	3
57	Photonic crystal fibreâ€based polarimetric sensor for cure monitoring of magnetorheological smart composite material. Electronics Letters, 2014, 50, 1083-1084.	1.0	0
58	Microstructured Fiber Sealed-Void Interferometric Humidity Sensor. IEEE Sensors Journal, 2014, 14, 1154-1159.	4.7	5
59	A miniaturized flexible surface attachable interrogator for hybrid optical fiber sensing. Microwave and Optical Technology Letters, 2014, 56, 1167-1174.	1.4	2
60	Hydrostatic pressure sensitivity of standard polymer fibre Bragg gratings and etched polymer fibre Bragg gratings. Proceedings of SPIE, 2014, , .	0.8	5
61	Carbon fibre-foam sandwich composite laminate embedded with fiber Bragg grating sensors. , 2014, , .		0
62	Hybrid Fiber Optic Sensor System for Measuring the Strain, Temperature, and Thermal Strain of Composite Materials. IEEE Sensors Journal, 2014, 14, 2571-2578.	4.7	30
63	Experimental Study and Analysis of a Polymer Fiber Bragg Grating Embedded in a Composite Material. Journal of Lightwave Technology, 2014, 32, 1726-1733.	4.6	36
64	A fast response intrinsic humidity sensor based on an etched singlemode polymer fiber Bragg grating. Sensors and Actuators A: Physical, 2013, 203, 107-111.	4.1	86
65	High Sensitivity Force and Pressure Measurements Using Etched Singlemode Polymer Fiber Bragg Gratings. IEEE Sensors Journal, 2013, 13, 1794-1800.	4.7	68
66	Measurement of thermal elongation induced strain of a composite material using a polarization maintaining photonic crystal fiber sensor. Sensors and Actuators A: Physical, 2013, 190, 44-51.	4.1	19
67	Polymer micro-fiber Bragg grating. Optics Letters, 2013, 38, 3359.	3.3	24
68	Fabrication and characterization of a polymer micro-fiber Bragg grating. , 2013, , .		0
69	Fabrication and Characterization of Bragg Gratings in Polymer Optical Fibers using 248 nm Irradiation. , 2013, , .		0
70	Analysis of Vibration Measurements in a Composite Material Using an Embedded PM-PCF Polarimetric Sensor and an FBG Sensor. IEEE Sensors Journal, 2012, 12, 1365-1371.	4.7	21
71	Photonic crystal fiber strain sensors for laparoscopic surgical devices. , 2012, , .		0
72	Comparison of vibration measurements in composite materials using different types of polarimetric sensors. Proceedings of SPIE, 2012, , .	0.8	2

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73	Characterization of the polarimetric sensors embedded in carbon and glass reinforced composite materials for strain/temperature measurements. , 2012, , .		0
74	Control of light propagation in optical fibers using liquid crystals for applications in optical communications and sensing. , 2012, , .		1
75	Etched singlemode polymer fiber Bragg gratings for high sensitivity tensile force measurements. , 2012, , .		0
76	Composite materials with embedded photonic crystal fiber interferometric sensors. Sensors and Actuators A: Physical, 2012, 182, 57-67.	4.1	19
77	Influence of lamination process on optical fiber sensors embedded in composite material. Measurement: Journal of the International Measurement Confederation, 2012, 45, 2275-2280.	5.0	30
78	A Photonic Crystal Fiber and Fiber Bragg Grating-Based Hybrid Fiber-Optic Sensor System. IEEE Sensors Journal, 2012, 12, 39-43.	4.7	20
79	A demodulation scheme for a hybrid fiber sensor system for composite materials. Proceedings of SPIE, 2012, , .	0.8	2
80	Photonic Crystal Fiber Sensors for Minimally Invasive Surgical Devices. IEEE Transactions on Biomedical Engineering, 2012, 59, 332-338.	4.2	5
81	Temperature Insensitive Miniature Photonic Crystal Fiber Interferometric (PCFI) Strain Sensors. , 2012, , .		0
82	Miniature temperature insensitive fiber optic sensors for minimally invasive surgical devices. , 2011, , .		0
83	Influence of the lamination process on the strain sensitivity of the fiber sensors embedded in composite materials. Proceedings of SPIE, 2011, , .	0.8	3
84	Photonic crystal fiber interferometer for dew detection. , 2011, , .		2
85	Improving the sensitivity of a humidity sensor based on fiber bend coated with a hygroscopic coating. Optics and Laser Technology, 2011, 43, 1301-1305.	4.6	35
86	Performance analysis and comparison of composite materials embedded with different optical fiber sensor types. , 2011, , .		1
87	Agarose coated single mode fiber bend for monitoring humidity. Proceedings of SPIE, 2011, , .	0.8	0
88	The influence of thermal expansion of a composite material on embedded polarimetric sensors. Smart Materials and Structures, 2011, 20, 125002.	3.5	16
89	A liquid crystal coated tapered photonic crystal fiber interferometer. Journal of Optics (United) Tj ETQq1 1 0.784314 rgBT /Overlock 1	2.2	18
90	Investigation and experimental measurement of scissor blade cutting forces using fiber Bragg grating sensors. Smart Materials and Structures, 2011, 20, 105004.	3.5	5

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91	Influence of Angular Orientation of the Embedded Highly Birefringent Fiber on PMD Changes under Axial Stress. Acta Physica Polonica A, 2011, 120, 575-578.	0.5	2
92	Design of a surface attachable hybrid fiber sensor packaged in a polyimide film for engineering applications. Proceedings of SPIE, 2010, , .	0.8	0
93	Optimum design for maximum wavelength resolution for an edge filter-based ratiometric system. Optics and Laser Technology, 2010, 42, 1032-1037.	4.6	1
94	A voltage sensor based on a singlemodeâ€“multimodeâ€“singlemode fiber structure. Microwave and Optical Technology Letters, 2010, 52, 1887-1890.	1.4	13
95	Experimental analysis and demonstration of a low cost fibre optic temperature sensor system for engineering applications. Sensors and Actuators A: Physical, 2010, 163, 88-95.	4.1	13
96	Polarization dependence of an edge filter based on singlemodeâ€“multimodeâ€“singlemode fibre. Optics and Laser Technology, 2010, 42, 1044-1048.	4.6	8
97	Characterization of liquid crystal coated photonic crystal fiber interferometers. Proceedings of SPIE, 2010, , .	0.8	1
98	A Fiber Bragg Grating-Based All-Fiber Sensing System for Telerobotic Cutting Applications. IEEE Sensors Journal, 2010, 10, 1913-1920.	4.7	13
99	Study of the effect of source signal bandwidth on ratiometric wavelength measurement. Applied Optics, 2010, 49, 5626.	2.1	4
100	Humidity sensor based on photonic crystal fibre interferometer. Electronics Letters, 2010, 46, 1341.	1.0	71
101	A hybrid fiber optic sensing system for simultaneous strain and temperature measurement and its applications. Photonics Letters of Poland, 2010, 2, .	0.4	9
102	A hybrid highly birefringent fiber optic sensing system for simultaneous strain and temperature measurement. Photonics Letters of Poland, 2010, 2, .	0.4	3
103	Ratiometric wavelength monitor based on X-type spectral response using two edge filters. , 2009, , .		6
104	Evaluation of the performance of a novel low-cost macro-bend fiber-based temperature sensor. , 2009, , .		1
105	Analysis of Strain Transfer to FBGâ€™s for Sensorized Telerobotic End-Effector Applications. , 2009, , 65-75.		2
106	Analysis and performance evaluation of an all-fiber wide range interrogation system for a Bragg grating sensor array. Journal of Optics, 2009, 11, 054004.	1.5	3
107	Investigation of polarizationâ€dependent loss for a macrobending loss sensitive singleâ€mode fiber. Microwave and Optical Technology Letters, 2009, 51, 1460-1464.	1.4	0
108	Temperature-Induced Instabilities in Macro-Bend Fiber Based Wavelength Measurement Systems. Journal of Lightwave Technology, 2009, 27, 1355-1361.	4.6	9

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109	Experimental demonstration of a ferroelectric liquid crystal tunable filter for fast demodulation of FBG sensors. , 2009, , .		2
110	A tunable high resolution FBG demodulation system using photonic crystal fiber loop mirrors. Proceedings of SPIE, 2009, , .	0.8	0
111	Optimum design for maximum wavelength resolution based on the edge filter ratiometric system. Proceedings of SPIE, 2009, , .	0.8	0
112	All Fiber tunable loss filter. Proceedings of SPIE, 2009, , .	0.8	3
113	Tunable properties of liquid crystal filled photonic crystal fibers. Proceedings of SPIE, 2009, , .	0.8	0
114	Ratiometric wavelength monitor based on singlemodeâ€multimodeâ€singlemode fiber structure. Microwave and Optical Technology Letters, 2008, 50, 3036-3039.	1.4	20
115	A Low Polarization Sensitivity All-Fiber Wavelength Measurement System. IEEE Photonics Technology Letters, 2008, 20, 1464-1466.	2.5	9
116	Temperature dependence of a macrobending edge filter based on a high-bend loss fiber. Optics Letters, 2008, 33, 2470.	3.3	18
117	Influence of fiber manufacturing tolerances on the spectral response of a bend loss based all-fiber edge filter. Applied Optics, 2008, 47, 2921.	2.1	7
118	Modeling and Analysis of the Effect of Noise on an Edge Filter Based Ratiometric Wavelength Measurement System. Journal of Lightwave Technology, 2008, 26, 3434-3442.	4.6	5
119	Discretely tunable ferroelectric liquid crystal filter for demodulation of multiple FBG sensors. , 2008, , .		2
120	Accurate theoretical prediction for single-mode fiber macrobending loss and bending induced polarization dependent loss. , 2008, , .		1
121	Investigation of the influence of 3dB coupler on ratiometric wavelength measurements. , 2008, , .		0
122	Macrobending fibre loss filter, ratiometric wavelength measurement and application. Measurement Science and Technology, 2007, 18, 3082-3088.	2.6	15
123	Resolution of ratiometric system for wavelength measurement. , 2007, 6585, 81.		0
124	Polarization dependence of bend loss for a standard singlemode fiber. Optics Express, 2007, 15, 4909.	3.4	43
125	Resolution investigation of a ratiometric wavelength measurement system. Applied Optics, 2007, 46, 6362.	2.1	24
126	An Optimized Macrobending-Fiber-Based Edge Filter. IEEE Photonics Technology Letters, 2007, 19, 1136-1138.	2.5	28

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127	Effect of SNR of input signal on the accuracy of a ratiometric wavelength measurement system. Microwave and Optical Technology Letters, 2007, 49, 1022-1024.	1.4	6
128	Investigation of macrobending losses of standard single mode fiber with small bend radii. Microwave and Optical Technology Letters, 2007, 49, 2133-2138.	1.4	28
129	A method to measure reference strain in FBG strain sensor interrogation system involving actuators. Microwave and Optical Technology Letters, 2007, 49, 2658-2661.	1.4	4
130	Design of integrated wavelength monitor based on a Y-branch with an S-bend waveguide. Sensors and Actuators A: Physical, 2007, 134, 405-409.	4.1	19
131	Low-cost wavelength measurement based on a macrobending single-mode fiber. Optics Letters, 2006, 31, 1785.	3.3	77
132	Demodulation of Multiple Fibre Bragg Grating Sensors using a Ferroelectric Liquid Crystal Tunable Filter. , 2006, , .		0
133	Passive All-Fiber Wavelength Measurement Systems: Performance Determination Factors. , 0, , .		0
134	Optical Fiber Sensors. , 0, , .		32