

Yves J Bellouard

List of Publications by Year in descending order

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140
papers

2,917
citations

186265

28
h-index

175258

52
g-index

143
all docs

143
docs citations

143
times ranked

1947
citing authors

#	ARTICLE	IF	CITATIONS
1	Wavelength-multiplexed single-shot ptychography. Ultramicroscopy, 2022, 233, 113418.	1.9	13
2	On the behavior of uniaxial static stress loaded micro-scale fused silica beams at room temperature. Journal of Non-Crystalline Solids: X, 2022, 14, 100083.	1.2	1
3	Abnormal temperature dependent elastic properties of fused silica irradiated by ultrafast lasers. Physical Review Materials, 2022, 6, .	2.4	4
4	Glass-in-glass infiltration for 3D micro-optical composite components. Optics Express, 2022, 30, 13603.	3.4	2
5	Ultrafast Laser Direct-Writing of Self-Organized Microstructures in Ge-Sb-S Chalcogenide Glass. Frontiers in Physics, 2022, 10, .	2.1	6
6	Femtosecond laser-shockwave induced densification in fused silica. Optical Materials Express, 2022, 12, 2886.	3.0	4
7	ABH damping of monolithic silica glass cantilever by structural and material modification using fs laser micromachining. International Journal of Applied Glass Science, 2021, 12, 36-45.	2.0	5
8	Vibration monitoring based on optical sensing of mechanical nonlinearities in glass suspended waveguides. Optics Express, 2021, 29, 10853.	3.4	9
9	On the use of a digital twin to enhance femtosecond laser inscription of arbitrary phase patterns. JPhys Photonics, 2021, 3, 035003.	4.6	1
10	Direct-write laser-induced self-organization and metallization beyond the focal volume in tellurite glass. Physical Review Materials, 2021, 5, .	2.4	11
11	Contactless Optical Packaging Concept for Laser to Fiber Coupling. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2021, 11, 1035-1043.	2.5	4
12	3D metal freeform micromanufacturing. Journal of Manufacturing Processes, 2021, 68, 867-876.	5.9	11
13	Highly motile nanoscale magnetic artificial cilia. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	16
14	Few pulses femtosecond laser exposure for high efficiency 3D glass micromachining. Optics Express, 2021, 29, 35054.	3.4	23
15	Ultrafast laser interaction with transparent multi-layer SiO ₂ /Si ₃ N ₄ films. Journal of Applied Physics, 2021, 130, .	2.5	4
16	Laser-induced densification of fused silica using spatially overlapping sub-30â€‰fs pulses. Journal of Applied Physics, 2020, 128, 083107.	2.5	0
17	Ablation in Externally Applied Electric and Magnetic Fields. Nanomaterials, 2020, 10, 182.	4.1	9
18	Lens aberration compensation in interference microscopy. Optics and Lasers in Engineering, 2020, 128, 106015.	3.8	30

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19	Elastic properties of self-organized nanogratings produced by femtosecond laser exposure of fused silica. <i>Physical Review Materials</i> , 2020, 4, .	2.4	9
20	A Monolithic Gimbal Micro-Mirror Fabricated and Remotely Tuned with a Femtosecond Laser. <i>Micromachines</i> , 2019, 10, 611.	2.9	6
21	Local tuning of fused silica thermal expansion coefficient using femtosecond laser. <i>Physical Review Materials</i> , 2019, 3, .	2.4	12
22	Laser-Based Fabrication of Microflow Cytometers with Integrated Optical Waveguides. , 2019, , 287-310.		0
23	Understanding Nanogratings Elastic Anisotropy: A Step Towards Femtosecond Laser-Written Elastic Meta-Crystal. , 2019, , .		0
24	Self-organized nanostructures forming under high-repetition rate femtosecond laser bulk-heating of fused silica. <i>Optics Express</i> , 2018, 26, 14024.	3.4	13
25	Hybrid laser 3D microprocessing in glass/polymer micromechanical sensor: towards chemical sensing applications. , 2018, , .		0
26	Ultrafast Laser to Tailor Material Properties: An Enabling Tool in Advanced Three-dimensional Micromanufacturing. <i>Chimia</i> , 2017, 71, 295-298.	0.6	1
27	Laser-Induced Transition between Nonlinear and Linear Resonant Behaviors of a Micromechanical Oscillator. <i>Physical Review Applied</i> , 2017, 7, .	3.8	13
28	Tunable 3D monolithic glass dielectrophoretic actuator for optomechanics. , 2017, , .		0
29	Unraveling Brittle-Fracture Statistics from Intermittent Patterns Formed During Femtosecond Laser Exposure. <i>Physical Review Applied</i> , 2017, 8, .	3.8	26
30	Combination of additive and subtractive laser microprocessing in glass/polymer microsystems for chemical sensing applications. , 2017, , .		0
31	Plasmon-less surface enhanced Raman spectra induced by self-organized networks of silica nanoparticles produced by femtosecond lasers. <i>Optics Express</i> , 2017, 25, 9587.	3.4	7
32	Combination of additive and subtractive laser 3D microprocessing in hybrid glass/polymer microsystems for chemical sensing applications. <i>Optics Express</i> , 2017, 25, 26280.	3.4	38
33	Direct-write waveplates using femtosecond lasers: Confined stress states for new polarization devices. , 2017, , .		0
34	Femtosecond laser direct-write waveplates based on stress-induced birefringence. <i>Optics Express</i> , 2016, 24, 27239.	3.4	27
35	Stress-state manipulation in fused silica via femtosecond laser irradiation. <i>Optica</i> , 2016, 3, 1285.	9.3	79
36	Laser-assisted morphing of complex three dimensional objects. <i>Proceedings of SPIE</i> , 2016, , .	0.8	0

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37	Progress on femtosecond laser-based system-materials: three-dimensional monolithic electrostatic micro-actuator for optomechanics. , 2016, , .		0
38	Investigation of the micro-mechanical properties of femtosecond laser-induced phases in amorphous silica. , 2016, , .		1
39	Quantification of Bulk Densification in Fused Silica Induced by Femtosecond Laser Exposure in the Sub-50 fs Regime. , 2016, , .		0
40	Non-contact sub-nanometer optical repositioning using femtosecond lasers. Optics Express, 2015, 23, 29258.	3.4	7
41	3D electrostatic actuator fabricated by non-ablative femtosecond laser exposure and chemical etching. MATEC Web of Conferences, 2015, 32, 02003.	0.2	3
42	Visualization of femtosecond laser-induced stress anisotropy in amorphous and crystalline materials. MATEC Web of Conferences, 2015, 32, 02004.	0.2	0
43	A Monolithic Micro-Tensile Tester for Investigating Silicon Dioxide Polymorph Micromechanics, Fabricated and Operated Using a Femtosecond Laser. Micromachines, 2015, 6, 1365-1386.	2.9	46
44	Deep-UV fluorescence lifetime imaging microscopy. Photonics Research, 2015, 3, 283.	7.0	11
45	Monolithic transparent 3D dielectrophoretic micro-actuator fabricated by femtosecond laser. Journal of Micromechanics and Microengineering, 2015, 25, 105009.	2.6	17
46	Formation of nanogratings in a porous glass immersed in water by femtosecond laser irradiation. Proceedings of SPIE, 2015, , .	0.8	2
47	Femtosecond laser-based production of 3D micro- and nano- devices in transparent substrate: a step toward system-materials. Proceedings of SPIE, 2015, , .	0.8	1
48	On the anisotropy of stress-distribution induced in glasses and crystals by non-ablative femtosecond laser exposure. Optics Express, 2015, 23, 86.	3.4	30
49	High-fidelity visualization of formation of volume nanogratings in porous glass by femtosecond laser irradiation. Optica, 2015, 2, 329.	9.3	77
50	Tailored surface birefringence by femtosecond laser assisted wet etching. Optics Express, 2015, 23, 1428.	3.4	23
51	Formation of in-volume nanogratings with sub-100-nm periods in glass by femtosecond laser irradiation. Optics Letters, 2015, 40, 3623.	3.3	37
52	Laser-assisted morphing of complex three dimensional objects. Optics Express, 2015, 23, 17355.	3.4	21
53	Transition and self-healing process between chaotic and self-organized patterns observed during femtosecond laser writing. Optics Express, 2015, 23, 16993.	3.4	7
54	Three-Dimensional Glass Monolithic Micro-Flexure Fabricated by Femtosecond Laser Exposure and Chemical Etching. Micromachines, 2014, 5, 697-710.	2.9	32

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55	Monolithic Three Dimensional Dielectrophoretic Actuator for Positioning Optics Fabricated by Femtosecond Laser. , 2014, , .		1
56	Nanotexturing of Glass Surface by Ultrafast Laser Assisted Wet Etching. , 2014, , .		0
57	Evidence of stress-state inversion induced by non-ablative femtosecond laser pulses in fused silica. , 2014, , .		0
58	The Interaction of Femtosecond Pulses with Dielectric Media and the Generation of Functional Micro/ Nano-Systems in a Single Monolith. , 2014, , .		0
59	Unusual phenomena with self-organized nanogratings written in silica glass with a femtosecond laser. , 2014, , .		0
60	Direct-write diffracting tubular optical components using femtosecond lasers. , 2014, , .		0
61	Kinetics of laser-assisted carbon nanotube growth. Physical Chemistry Chemical Physics, 2014, 16, 5162-5173.	2.8	11
62	A monolithic micro-tensile tester for investigating silica micromechanics, fabricated and fully operated using a femtosecond laser. , 2014, , .		1
63	Femtosecond laser induced material modifications to control stress states in silica. , 2014, , .		0
64	Arbitrary Optical Retardance Patterns Generated in Bulk Silica Glass by Laser-Written Stressors. , 2014, , .		0
65	Characterization of optical polarization converters made by femtosecond laser writing. , 2013, , .		0
66	Optically-transparent actuators and micro-mechanical systems fabricated using femtosecond lasers. , 2013, , .		0
67	Molding topologically-complex 3D polymer microstructures from femtosecond laser machined glass. Optical Materials Express, 2013, 3, 1428.	3.0	20
68	Femtosecond versus picosecond laser machining of nano-gratings and micro-channels in silica glass. Optics Express, 2013, 21, 3946.	3.4	51
69	Stress distribution around femtosecond laser affected zones: effect of nanogratings orientation. Optics Express, 2013, 21, 24942.	3.4	56
70	Fabrication of Topologically-Complex 3D Microstructures by Femtosecond Laser Machining and Polymer Molding. MATEC Web of Conferences, 2013, 8, 05008.	0.2	0
71	Femtosecond laser processing of fused silica: from process characterization to applications in optomechanics. MATEC Web of Conferences, 2013, 8, 04004.	0.2	0
72	Nanograting Orientation Influence on Stress Induced by Femtosecond Laser in Fused Silica. MATEC Web of Conferences, 2013, 8, 04008.	0.2	0

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73	Fabrication of Topologically-Complex 3D Microstructures by Femtosecond Laser Machining and Polymer Molding. , 2013, , .		1
74	Nanograting Orientation Influence on Stress Induced by Femtosecond Laser in Fused Silica. , 2013, , .		0
75	Density variation in fused silica exposed to femtosecond laser. , 2012, , .		1
76	Picosecond laser machining in the bulk of transparent dielectrics: critical comparison with fs-laser direct writing. , 2012, , .		2
77	Optofluidic microdevice for algae classification: a comparison of results from discriminant analysis and neural network pattern recognition. , 2012, , .		3
78	Micromachining with femtosecond laser written radial polarization converter. , 2012, , .		0
79	On the role of the scanning line density on the etching of fused silica specimens exposed to femtosecond lasers pulses. Proceedings of SPIE, 2012, , .	0.8	0
80	Integrated Optofluidics and Optomechanical Devices Manufactured by Femtosecond Lasers. , 2012, , 471-490.		0
81	Direct volume variation measurements in fused silica specimens exposed to femtosecond laser. Optical Materials Express, 2012, 2, 789.	3.0	75
82	Closed-loop control of laser assisted chemical vapor deposition growth of carbon nanotubes. Journal of Applied Physics, 2012, 112, 034904.	2.5	5
83	Optically transparent glass micro-actuator fabricated by femtosecond laser exposure and chemical etching. Applied Physics Letters, 2012, 101, .	3.3	42
84	Optical classification of algae species with a glass lab-on-a-chip. Lab on A Chip, 2012, 12, 1527.	6.0	73
85	Lab on a chip technologies for algae detection: a review. Journal of Biophotonics, 2012, 5, 661-672.	2.3	42
86	The Femtoprint Project. Journal of Laser Micro Nanoengineering, 2012, 7, 1-10.	0.1	55
87	Role of stress in the chemical etching of fused silica exposed to low-energy femtosecond laser pulses. Proceedings of SPIE, 2011, , .	0.8	1
88	Optofluidic lab-on-a-chip for rapid algae population screening. Biomedical Optics Express, 2011, 2, 658.	2.9	72
89	Femtosecond-laser generation of self-organized bubble patterns in fused silica. Optics Express, 2011, 19, 6807.	3.4	73
90	On the bending strength of fused silica flexures fabricated by ultrafast lasers [Invited]. Optical Materials Express, 2011, 1, 816.	3.0	44

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91	Polymer micro-molding of femtosecond laser micromachined substrates. Proceedings of SPIE, 2011, , .	0.8	2
92	Spatio-temporally Focused Femtosecond Laser Pulses for Anisotropic Writing in Optically Transparent Materials. , 2011, , .		1
93	Closed-loop control of a laser assisted carbon nanotube growth process for interconnects in flexible electronics. Materials Research Society Symposia Proceedings, 2011, 1365, 1.	0.1	0
94	Phase Transitions Induced by Ultrafast Laser Writing in Transparent Materials. , 2011, , .		1
95	Dynamical Observation of Femtosecond-Laser-Induced Bubbles in Water Using a Single Laser Source for Probing and Sensing. Applied Physics Express, 2010, 3, 127101.	2.4	10
96	<i>In situ</i> monitoring of single-wall carbon nanotube laser assisted growth. Nanotechnology, 2010, 21, 075602.	2.6	11
97	Towards fast femtosecond laser micromachining of fused silica: The effect of deposited energy. Optics Express, 2010, 18, 21490.	3.4	69
98	Femtosecond laser micromachining of fused silica molds. Optics Express, 2010, 18, 21826.	3.4	28
99	Spatio-temporally focused femtosecond laser pulses for nonreciprocal writing in optically transparent materials. Optics Express, 2010, 18, 24673.	3.4	138
100	On the use of shape memory alloy thin films to tune the dynamic response of micro-cantilevers. Journal of Micromechanics and Microengineering, 2010, 20, 015039.	2.6	12
101	Towards fast femtosecond laser micromachining of glass, effect of deposited energy.. , 2010, , .		4
102	Laser-Based Fabrication of Microflow Cytometers with Integrated Optical Waveguides. , 2010, , .		0
103	Femtosecond laser processing of fused silica to create integrated microsystems. , 2009, , .		0
104	On the use of femtosecond lasers to fabricate small optical instruments made from fused silica monoliths. , 2009, , .		0
105	Monolithic integration in fused silica: When fluidics, mechanics and optics meet in a single substrate. , 2009, , .		2
106	High strength fused silica flexures manufactured by femtosecond laser. , 2009, , .		2
107	Towards a femtosecond laser micromachined optofluidic device for distinguishing algae species. , 2009, , .		1
108	Thermal modeling of laser-annealing-induced crystallization of amorphous NiTi thin films. Applied Physics A: Materials Science and Processing, 2008, 90, 689-694.	2.3	8

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109	Time dependent growth of vertically aligned carbon nanotube forest using a laser activated catalytical CVD method. Physica Status Solidi (B): Basic Research, 2008, 245, 1927-1930.	1.5	7
110	Shape memory alloys for microsystems: A review from a material research perspective. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2008, 481-482, 582-589.	5.6	182
111	Scanning thermal microscopy and Raman analysis of bulk fused silica exposed to lowenergy femtosecond laser pulses. Optics Express, 2008, 16, 19520.	3.4	74
112	Towards a femtosecond laser micro-machined optofluidic device for distinguishing algae species. , 2008, , .		0
113	Characterization of fused silica specimens exposed to low-energy femtosecond laser pulses using a sub-micron resolution, thermal technique. Proceedings of SPIE, 2008, , .	0.8	0
114	In-situ optical detection of mesoscale components in glass microfluidic channel with monolithic waveguide. , 2007, , .		3
115	Laser actuated shape memory alloy mobile micro-robot: initial results. , 2007, , .		0
116	Real-time birefringence measurement with digital holographic microscopy. , 2007, , .		1
117	Nanoindentation and birefringence measurements on fused silica specimen exposed to low-energy femtosecond pulses. Optics Express, 2006, 14, 8360.	3.4	75
118	Laser-based fabrication of a displacement sensor with an integrated high-accuracy position sensor. , 2006, , .		1
119	A multidisciplinary design and optimization methodology for the Adaptive Scanning Optical Microscope (ASOM). , 2006, 6289, 176.		2
120	Investigation of femtosecond laser irradiation on fused silica. , 2006, 6108, 115.		2
121	Monolithic multifunctional integration in fused silica. , 2006, 6400, 25.		3
122	Thermal conductivity contrast measurement of fused silica exposed to low-energy femtosecond laser pulses. Applied Physics Letters, 2006, 89, 161911.	3.3	23
123	All-optical, ultra-high accuracy displacement sensors with detection means. , 2005, 5989, 258.		3
124	Laser annealing of amorphous NiTi shape memory alloy thin films to locally induce shape memory properties. Acta Materialia, 2005, 53, 4955-4961.	7.9	77
125	Adaptive Scanning Optical Microscope (ASOM): A multidisciplinary optical microscope design for large field of view and high resolution imaging. Optics Express, 2005, 13, 6504.	3.4	90
126	Integrating optics and micro-mechanics in a single substrate: a step toward monolithic integration in fused silica. Optics Express, 2005, 13, 6635.	3.4	138

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127	Investigation of Femtosecond Laser Irradiation on Fused Silica Etching Selectivity. Materials Research Society Symposia Proceedings, 2004, 850, 158.	0.1	0
128	Shape memory alloy flexures. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2004, 378, 210-215.	5.6	13
129	Manufacturing by laser direct-write of three-dimensional devices containing optical and microfluidic networks. , 2004, , .		24
130	Fabrication of high-aspect ratio, micro-fluidic channels and tunnels using femtosecond laser pulses and chemical etching. Optics Express, 2004, 12, 2120.	3.4	458
131	Microstructure Evolution of On-substrate NiTi Shape Memory Alloy Thin Films. Materials Research Society Symposia Proceedings, 2003, 795, 469.	0.1	0
132	Monolithic Three-Dimensional Integration of Micro-Fluidic Channels and Optical Waveguides in Fused Silica. Materials Research Society Symposia Proceedings, 2003, 782, 1.	0.1	12
133	Experimental study of the out-of-equilibrium behavior of the two-way shape memory effect. European Physical Journal Special Topics, 2003, 112, 765-768.	0.2	3
134	Effects of perturbations on a trained shape memory micro-actuator. European Physical Journal Special Topics, 2001, 11, Pr8-583-Pr8-588.	0.2	0
135	Laser annealing of shape memory alloys : A versatile tool for developing smart micro-devices. European Physical Journal Special Topics, 2001, 11, Pr8-571-Pr8-576.	0.2	8
136	Monolithic shape memory alloy microgripper for 3D assembly of tissue engineering scaffolds. , 2001, , .		20
137	<title>Local annealing of shape memory alloys using laser scanning and computer vision</title>. , 2000, 4088, 160.		2
138	Local annealing of complex mechanical devices: a new approach for developing monolithic micro-devices. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1999, 273-275, 795-798.	5.6	59
139	<title>Design and highly accurate 3D displacement characterization of monolithic SMA microgripper using computer vision</title>. , 1998, , .		2
140	Microrobotics. , 0, , .		17