

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	Fabrication of high-aspect ratio, micro-fluidic channels and tunnels using femtosecond laser pulses and chemical etching. <i>Optics Express</i> , 2004, 12, 2120.	3.4	458
2	Shape memory alloys for microsystems: A review from a material research perspective. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2008, 481-482, 582-589.	5.6	182
3	Integrating optics and micro-mechanics in a single substrate: a step toward monolithic integration in fused silica. <i>Optics Express</i> , 2005, 13, 6635.	3.4	138
4	Spatio-temporally focused femtosecond laser pulses for nonreciprocal writing in optically transparent materials. <i>Optics Express</i> , 2010, 18, 24673.	3.4	138
5	Adaptive Scanning Optical Microscope (ASOM): A multidisciplinary optical microscope design for large field of view and high resolution imaging. <i>Optics Express</i> , 2005, 13, 6504.	3.4	90
6	Stress-state manipulation in fused silica via femtosecond laser irradiation. <i>Optica</i> , 2016, 3, 1285.	9.3	79
7	Laser annealing of amorphous NiTi shape memory alloy thin films to locally induce shape memory properties. <i>Acta Materialia</i> , 2005, 53, 4955-4961.	7.9	77
8	High-fidelity visualization of formation of volume nanogratings in porous glass by femtosecond laser irradiation. <i>Optica</i> , 2015, 2, 329.	9.3	77
9	Nanoindentation and birefringence measurements on fused silica specimen exposed to low-energy femtosecond pulses. <i>Optics Express</i> , 2006, 14, 8360.	3.4	75
10	Direct volume variation measurements in fused silica specimens exposed to femtosecond laser. <i>Optical Materials Express</i> , 2012, 2, 789.	3.0	75
11	Scanning thermal microscopy and Raman analysis of bulk fused silica exposed to lowenergy femtosecond laser pulses. <i>Optics Express</i> , 2008, 16, 19520.	3.4	74
12	Femtosecond-laser generation of self-organized bubble patterns in fused silica. <i>Optics Express</i> , 2011, 19, 6807.	3.4	73
13	Optical classification of algae species with a glass lab-on-a-chip. <i>Lab on A Chip</i> , 2012, 12, 1527.	6.0	73
14	Optofluidic lab-on-a-chip for rapid algae population screening. <i>Biomedical Optics Express</i> , 2011, 2, 658.	2.9	72
15	Towards fast femtosecond laser micromachining of fused silica: The effect of deposited energy. <i>Optics Express</i> , 2010, 18, 21490.	3.4	69
16	Local annealing of complex mechanical devices: a new approach for developing monolithic micro-devices. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 1999, 273-275, 795-798.	5.6	59
17	Stress distribution around femtosecond laser affected zones: effect of nanogratings orientation. <i>Optics Express</i> , 2013, 21, 24942.	3.4	56
18	The FemtoPrint Project. <i>Journal of Laser Micro Nanoengineering</i> , 2012, 7, 1-10.	0.1	55

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19	Femtosecond versus picosecond laser machining of nano-gratings and micro-channels in silica glass. <i>Optics Express</i> , 2013, 21, 3946.	3.4	51
20	A Monolithic Micro-Tensile Tester for Investigating Silicon Dioxide Polymorph Micromechanics, Fabricated and Operated Using a Femtosecond Laser. <i>Micromachines</i> , 2015, 6, 1365-1386.	2.9	46
21	On the bending strength of fused silica flexures fabricated by ultrafast lasers [Invited]. <i>Optical Materials Express</i> , 2011, 1, 816.	3.0	44
22	Optically transparent glass micro-actuator fabricated by femtosecond laser exposure and chemical etching. <i>Applied Physics Letters</i> , 2012, 101, .	3.3	42
23	Lab on a chip technologies for algae detection: a review. <i>Journal of Biophotonics</i> , 2012, 5, 661-672.	2.3	42
24	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
25	Formation of in-volume nanogratings with sub-100-nm periods in glass by femtosecond laser irradiation. <i>Optics Letters</i> , 2015, 40, 3623.	3.3	37
26	Three-Dimensional Glass Monolithic Micro-Flexure Fabricated by Femtosecond Laser Exposure and Chemical Etching. <i>Micromachines</i> , 2014, 5, 697-710.	2.9	32
27	On the anisotropy of stress-distribution induced in glasses and crystals by non-ablative femtosecond laser exposure. <i>Optics Express</i> , 2015, 23, 86.	3.4	30
28	Lens aberration compensation in interference microscopy. <i>Optics and Lasers in Engineering</i> , 2020, 128, 106015.	3.8	30
29	Femtosecond laser micromachining of fused silica molds. <i>Optics Express</i> , 2010, 18, 21826.	3.4	28
30	Femtosecond laser direct-write waveplates based on stress-induced birefringence. <i>Optics Express</i> , 2016, 24, 27239.	3.4	27
31	Unraveling Brittle-Fracture Statistics from Intermittent Patterns Formed During Femtosecond Laser Exposure. <i>Physical Review Applied</i> , 2017, 8, .	3.8	26
32	Manufacturing by laser direct-write of three-dimensional devices containing optical and microfluidic networks. , 2004, , .		24
33	Thermal conductivity contrast measurement of fused silica exposed to low-energy femtosecond laser pulses. <i>Applied Physics Letters</i> , 2006, 89, 161911.	3.3	23
34	Tailored surface birefringence by femtosecond laser assisted wet etching. <i>Optics Express</i> , 2015, 23, 1428.	3.4	23
35	Few pulses femtosecond laser exposure for high efficiency 3D glass micromachining. <i>Optics Express</i> , 2021, 29, 35054.	3.4	23
36	Laser-assisted morphing of complex three dimensional objects. <i>Optics Express</i> , 2015, 23, 17355.	3.4	21

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37	Monolithic shape memory alloy microgripper for 3D assembly of tissue engineering scaffolds. , 2001, , .		20
38	Molding topologically-complex 3D polymer microstructures from femtosecond laser machined glass. Optical Materials Express, 2013, 3, 1428.	3.0	20
39	Monolithic transparent 3D dielectrophoretic micro-actuator fabricated by femtosecond laser. Journal of Micromechanics and Microengineering, 2015, 25, 105009.	2.6	17
40	Microrobotics. , 0, , .		17
41	Highly motile nanoscale magnetic artificial cilia. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	16
42	Shape memory alloy flexures. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2004, 378, 210-215.	5.6	13
43	Laser-Induced Transition between Nonlinear and Linear Resonant Behaviors of a Micromechanical Oscillator. Physical Review Applied, 2017, 7, .	3.8	13
44	Self-organized nanostructures forming under high-repetition rate femtosecond laser bulk-heating of fused silica. Optics Express, 2018, 26, 14024.	3.4	13
45	Wavelength-multiplexed single-shot ptychography. Ultramicroscopy, 2022, 233, 113418.	1.9	13
46	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
47	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
48	Local tuning of fused silica thermal expansion coefficient using femtosecond laser. Physical Review Materials, 2019, 3, .	2.4	12
49	<i>In situ</i> monitoring of single-wall carbon nanotube laser assisted growth. Nanotechnology, 2010, 21, 075602.	2.6	11
50	Kinetics of laser-assisted carbon nanotube growth. Physical Chemistry Chemical Physics, 2014, 16, 5162-5173.	2.8	11
51	Deep-UV fluorescence lifetime imaging microscopy. Photonics Research, 2015, 3, 283.	7.0	11
52	Direct-write laser-induced self-organization and metallization beyond the focal volume in tellurite glass. Physical Review Materials, 2021, 5, .	2.4	11
53	3D metal freeform micromanufacturing. Journal of Manufacturing Processes, 2021, 68, 867-876.	5.9	11
54	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

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55	Ablation in Externally Applied Electric and Magnetic Fields. <i>Nanomaterials</i> , 2020, 10, 182.	4.1	9
56	Vibration monitoring based on optical sensing of mechanical nonlinearities in glass suspended waveguides. <i>Optics Express</i> , 2021, 29, 10853.	3.4	9
57	Elastic properties of self-organized nanogratings produced by femtosecond laser exposure of fused silica. <i>Physical Review Materials</i> , 2020, 4, .	2.4	9
58	Laser annealing of shape memory alloys : A versatile tool for developing smart micro-devices. <i>European Physical Journal Special Topics</i> , 2001, 11, Pr8-571-Pr8-576.	0.2	8
59	Thermal modeling of laser-annealing-induced crystallization of amorphous NiTi thin films. <i>Applied Physics A: Materials Science and Processing</i> , 2008, 90, 689-694.	2.3	8
60	Time dependent growth of vertically aligned carbon nanotube forest using a laser activated catalytical CVD method. <i>Physica Status Solidi (B): Basic Research</i> , 2008, 245, 1927-1930.	1.5	7
61	Non-contact sub-nanometer optical repositioning using femtosecond lasers. <i>Optics Express</i> , 2015, 23, 29258.	3.4	7
62	Transition and self-healing process between chaotic and self-organized patterns observed during femtosecond laser writing. <i>Optics Express</i> , 2015, 23, 16993.	3.4	7
63	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
64	A Monolithic Gimbal Micro-Mirror Fabricated and Remotely Tuned with a Femtosecond Laser. <i>Micromachines</i> , 2019, 10, 611.	2.9	6
65	Ultrafast Laser Direct-Writing of Self-Organized Microstructures in Ge-Sb-S Chalcogenide Glass. <i>Frontiers in Physics</i> , 2022, 10, .	2.1	6
66	Closed-loop control of laser assisted chemical vapor deposition growth of carbon nanotubes. <i>Journal of Applied Physics</i> , 2012, 112, 034904.	2.5	5
67	ABH damping of monolithic silica glass cantilever by structural and material modification using fs laser micromachining. <i>International Journal of Applied Glass Science</i> , 2021, 12, 36-45.	2.0	5
68	Contactless Optical Packaging Concept for Laser to Fiber Coupling. <i>IEEE Transactions on Components, Packaging and Manufacturing Technology</i> , 2021, 11, 1035-1043.	2.5	4
69	Towards fast femtosecond laser micromachining of glass, effect of deposited energy.. , 2010, , .		4
70	Abnormal temperature dependent elastic properties of fused silica irradiated by ultrafast lasers. <i>Physical Review Materials</i> , 2022, 6, .	2.4	4
71	Ultrafast laser interaction with transparent multi-layer SiO ₂ /Si ₃ N ₄ films. <i>Journal of Applied Physics</i> , 2021, 130, .	2.5	4
72	Femtosecond laser-shockwave induced densification in fused silica. <i>Optical Materials Express</i> , 2022, 12, 2886.	3.0	4

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73	All-optical, ultra-high accuracy displacement sensors with detection means. , 2005, 5989, 258.		3
74	Monolithic multifunctional integration in fused silica. , 2006, 6400, 25.		3
75	In-situ optical detection of mesoscale components in glass microfluidic channel with monolithic waveguide. , 2007, , .		3
76	Optofluidic microdevice for algae classification: a comparison of results from discriminant analysis and neural network pattern recognition. , 2012, , .		3
77	3D electrostatic actuator fabricated by non-ablative femtosecond laser exposure and chemical etching. MATEC Web of Conferences, 2015, 32, 02003.	0.2	3
78	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
79	<title>Design and highly accurate 3D displacement characterization of monolithic SMA microgripper using computer vision</title>. , 1998, , .		2
80	<title>Local annealing of shape memory alloys using laser scanning and computer vision</title>. , 2000, 4088, 160.		2
81	A multidisciplinary design and optimization methodology for the Adaptive Scanning Optical Microscope (ASOM). , 2006, 6289, 176.		2
82	Investigation of femtosecond laser irradiation on fused silica. , 2006, 6108, 115.		2
83	Monolithic integration in fused silica: When fluidics, mechanics and optics meet in a single substrate. , 2009, , .		2
84	High strength fused silica flexures manufactured by femtosecond laser. , 2009, , .		2
85	Polymer micro-molding of femtosecond laser micromachined substrates. Proceedings of SPIE, 2011, , .	0.8	2
86	Picosecond laser machining in the bulk of transparent dielectrics: critical comparison with fs-laser direct writing. , 2012, , .		2
87	Formation of nanogratings in a porous glass immersed in water by femtosecond laser irradiation. Proceedings of SPIE, 2015, , .	0.8	2
88	Glass-in-glass infiltration for 3D micro-optical composite components. Optics Express, 2022, 30, 13603.	3.4	2
89	Laser-based fabrication of a displacement sensor with an integrated high-accuracy position sensor. , 2006, , .		1
90	Towards a femtosecond laser micromachined optofluidic device for distinguishing algae species. , 2009, , .		1

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91	Role of stress in the chemical etching of fused silica exposed to low-energy femtosecond laser pulses. Proceedings of SPIE, 2011, , .	0.8	1
92	Spatio-temporally Focused Femtosecond Laser Pulses for Anisotropic Writing in Optically Transparent Materials. , 2011, , .		1
93	Density variation in fused silica exposed to femtosecond laser. , 2012, , .		1
94	Monolithic Three Dimensional Dielectrophoretic Actuator for Positioning Optics Fabricated by Femtosecond Laser. , 2014, , .		1
95	A monolithic micro-tensile tester for investigating silica micromechanics, fabricated and fully operated using a femtosecond laser. , 2014, , .		1
96	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
97	Investigation of the micro-mechanical properties of femtosecond laser-induced phases in amorphous silica. , 2016, , .		1
98	Ultrafast Laser to Tailor Material Properties: An Enabling Tool in Advanced Three-dimensional Micromanufacturing. Chimia, 2017, 71, 295-298.	0.6	1
99	On the use of a digital twin to enhance femtosecond laser inscription of arbitrary phase patterns. JPhys Photonics, 2021, 3, 035003.	4.6	1
100	Phase Transitions Induced by Ultrafast Laser Writing in Transparent Materials. , 2011, , .		1
101	Fabrication of Topologically-Complex 3D Microstructures by Femtosecond Laser Machining and Polymer Molding. , 2013, , .		1
102	Real-time birefringence measurement with digital holographic microscopy. , 2007, , .		1
103	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
104	Effects of perturbations on a trained shape memory micro-actuator. European Physical Journal Special Topics, 2001, 11, Pr8-583-Pr8-588.	0.2	0
105	Microstructure Evolution of On-substrate NiTi Shape Memory Alloy Thin Films. Materials Research Society Symposia Proceedings, 2003, 795, 469.	0.1	0
106	Investigation of Femtosecond Laser Irradiation on Fused Silica Etching Selectivity. Materials Research Society Symposia Proceedings, 2004, 850, 158.	0.1	0
107	Laser actuated shape memory alloy mobile micro-robot: initial results. , 2007, , .		0
108	Towards a femtosecond laser micro-machined optofluidic device for distinguishing algae species. , 2008, , .		0

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109	Femtosecond laser processing of fused silica to create integrated microsystems. , 2009, , .		0
110	On the use of femtosecond lasers to fabricate small optical instruments made from fused silica monoliths. , 2009, , .		0
111	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
112	Micromachining with femtosecond laser written radial polarization converter. , 2012, , .		0
113	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
114	Integrated Optofluidics and Optomechanical Devices Manufactured by Femtosecond Lasers. , 2012, , 471-490.		0
115	Characterization of optical polarization converters made by femtosecond laser writing. , 2013, , .		0
116	Optically-transparent actuators and micro-mechanical systems fabricated using femtosecond lasers. , 2013, , .		0
117	Fabrication of Topologically-Complex 3D Microstructures by Femtosecond Laser Machining and Polymer Molding. MATEC Web of Conferences, 2013, 8, 05008.	0.2	0
118	Femtosecond laser processing of fused silica: from process characterization to applications in optomechanics. MATEC Web of Conferences, 2013, 8, 04004.	0.2	0
119	Nanograting Orientation Influence on Stress Induced by Femtosecond Laser in Fused Silica. MATEC Web of Conferences, 2013, 8, 04008.	0.2	0
120	Nanotexturing of Glass Surface by Ultrafast Laser Assisted Wet Etching. , 2014, , .		0
121	Evidence of stress-state inversion induced by non-ablative femtosecond laser pulses in fused silica. , 2014, , .		0
122	The Interaction of Femtosecond Pulses with Dielectric Media and the Generation of Functional Micro/ Nano-Systems in a Single Monolith. , 2014, , .		0
123	Unusual phenomena with self-organized nanogratings written in silica glass with a femtosecond laser. , 2014, , .		0
124	Direct-write diffracting tubular optical components using femtosecond lasers. , 2014, , .		0
125	Visualization of femtosecond laser-induced stress anisotropy in amorphous and crystalline materials. MATEC Web of Conferences, 2015, 32, 02004.	0.2	0
126	Laser-assisted morphing of complex three dimensional objects. Proceedings of SPIE, 2016, , .	0.8	0

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127	Progress on femtosecond laser-based system-materials: three-dimensional monolithic electrostatic micro-actuator for optomechanics. , 2016, , .		0
128	Tunable 3D monolithic glass dielectrophoretic actuator for optomechanics. , 2017, , .		0
129	Combination of additive and subtractive laser microprocessing in glass/polymer microsystems for chemical sensing applications. , 2017, , .		0
130	Direct-write waveplates using femtosecond lasers: Confined stress states for new polarization devices. , 2017, , .		0
131	Laser-induced densification of fused silica using spatially overlapping sub-30â€%fs pulses. Journal of Applied Physics, 2020, 128, 083107.	2.5	0
132	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
133	Laser-Based Fabrication of Microflow Cytometers with Integrated Optical Waveguides. , 2010, , .		0
134	Nanograting Orientation Influence on Stress Induced by Femtosecond Laser in Fused Silica. , 2013, , .		0
135	Femtosecond laser induced material modifications to control stress states in silica. , 2014, , .		0
136	Arbitrary Optical Retardance Patterns Generated in Bulk Silica Glass by Laser-Written Stressors. , 2014, , .		0
137	Quantification of Bulk Densification in Fused Silica Induced by Femtosecond Laser Exposure in the Sub-50 fs Regime. , 2016, , .		0
138	Hybrid laser 3D microprocessing in glass/polymer micromechanical sensor: towards chemical sensing applications. , 2018, , .		0
139	Laser-Based Fabrication of Microflow Cytometers with Integrated Optical Waveguides. , 2019, , 287-310.		0
140	Understanding Nanogratings Elastic Anisotropy: A Step Towards Femtosecond Laser-Written Elastic Meta-Crystal. , 2019, , .		0