Wataru Watanabe

List of Publications by Year
in descending order

132 papers	3,742 citations	159573 30 h-index	128286 60 g-index
141 all docs	141 docs citations	141 times ranked	2196 citing authors

#	Article	IF	Citations
1	Ultrafast Processes for Bulk Modification of Transparent Materials. MRS Bulletin, 2006, 31, 620-625.	3.5	405
2	Three-dimensional hole drilling of silica glass from the rear surface with femtosecond laser pulses. Optics Letters, 2001, 26, 1912.	3.3	249
3	In situ observation of photoinduced refractive-index changes in filaments formed in glasses by femtosecond laser pulses. Optics Letters, 2001, 26, 19.	3.3	219
4	Femtosecond laser disruption of subcellular organelles in a living cell. Optics Express, 2004, 12, 4203.	3.4	219
5	Terahertz wire-grid polarizers with micrometer-pitch Al gratings. Optics Letters, 2009, 34, 274.	3.3	176
6	Welding of Transparent Materials Using Femtosecond Laser Pulses. Japanese Journal of Applied Physics, 2005, 44, L687-L689.	1.5	170
7	Wavelength division with three-dimensional couplers fabricated by filamentation of femtosecond laser pulses. Optics Letters, 2003, 28, 2491.	3.3	167
8	Symmetric waveguides in poly(methyl methacrylate) fabricated by femtosecond laser pulses. Optics Express, 2006, 14, 291.	3.4	139
9	Laser micro-welding of transparent materials by a localized heat accumulation effect using a femtosecond fiber laser at 1558 nm. Optics Express, 2006, 14, 10460.	3.4	127
10	Space-selective laser joining of dissimilar transparent materials using femtosecond laser pulses. Applied Physics Letters, 2006, 89, 021106.	3.3	121
11	Optical seizing and merging of voids in silica glass with infrared femtosecond laser pulses. Optics Letters, 2000, 25, 1669.	3.3	113
12	Fabrication of Fresnel zone plate embedded in silica glass by femtosecond laser pulses. Optics Express, 2002, 10, 978.	3.4	110
13	Holographic fabrication of multiple layers of grating inside sodaâ€“lime glass with femtosecond laser pulses. Applied Physics Letters, 2002, 80, 1508-1510.	3.3	99
14	Multilevel phase-type diffractive lenses in silica glass induced by filamentation of femtosecond laser pulses. Optics Letters, 2004, 29, 1846.	3.3	94
15	[INVITED] Ultrafast laser micro-processing of transparent material. Optics and Laser Technology, 2016, 78, 52-61.	4.6	78
16	Intracellular disruption of mitochondria in a living HeLa cell with a 76-MHz femtosecond laser oscillator. Optics Express, 2005, 13, 9869.	3.4	70
17	Single femtosecond pulse holography using polymethyl methacrylate. Optics Express, 2002, 10, 1173.	3.4	61
18	Three-Dimensional Waveguides Fabricated in Poly(methyl methacrylate) by a Femtosecond Laser. Japanese Journal of Applied Physics, 2006, 45, L765-L767.	1.5	58

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19	Direct Welding between Copper and Glass Substrates with Femtosecond Laser Pulses. Applied Physics Express, 0, 1, 082601.	2.4	57
20	Volume Grating Induced by a Self-Trapped Long Filament of Femtosecond Laser Pulses in Silica Glass. Japanese Journal of Applied Physics, 2003, 42, 6916-6919.	1.5	53
21	Multi-Spectral Two-Photon Excited Fluorescence Microscopy Using Supercontinuum Light Source. Japanese Journal of Applied Physics, 2005, 44, L167-L169.	1.5	49
22	Single-organelle tracking by two-photon conversion. Optics Express, 2007, 15, 2490.	3.4	46
23	Structural modification in fused silica by a femtosecond fiber laser at 1558 nm. Optics Express, 2006, 14, 6971.	3.4	44
24	Estimation of the Refractive Index Change in Glass Induced by Femtosecond Laser Pulses. Optical Review, 2000, 7, 14-17.	2.0	43
25	Motion of bubble in solid by femtosecond laser pulses. Optics Express, 2002, 10, 603.	3.4	41
26	Chromophore-assisted laser inactivation â€“ towards a spatiotemporalâ€“functional analysis of proteins, and the ablation of chromatin, organelle and cell function. Journal of Cell Science, 2014, 127, 1621-1629.	2.0	41
27	Stimulated parametric emission microscopy. Optics Express, 2006, 14, 786.	3.4	40
28	Fabrication of multimode interference waveguides in glass by use of a femtosecond laser. Optics Letters, 2005, 30, 2888.	3.3	39
29	Anisotropic refractive-index change in silica glass induced by self-trapped filament of linearly polarized femtosecond laser pulses. Journal of Applied Physics, 2003, 93, 1889-1892.	2.5	35
30	Optical knock out of stem cells with extremely ultrashort femtosecond laser pulses. Journal of Biophotonics, 2008, 1, 463-469.	2.3	34
31	Characterization of Micro-Channels Fabricated by In-Water Ablation of Femtosecond Laser Pulses. Japanese Journal of Applied Physics, 2004, 43, 4207-4211.	1.5	33
32	Study of filamentary damage in synthesized silica induced by chirped femtosecond laser pulses. Journal of the Optical Society of America B: Optical Physics, 2005, 22, 2437.	2.1	31
33	Histone H2A mobility is regulated by its tails and acetylation of core histone tails. Biochemical and Biophysical Research Communications, 2007, 357, 627-632.	2.1	30
34	Density characterization of femtosecond laser modification in polymers. Applied Physics Letters, 2008, 92, .	3.3	27
35	Holographic data storage on nonphotosensitive glass with a single femtosecond laser pulse. Applied Physics Letters, 2002, 81, 1952-1954.	3.3	24
36	Femtosecond laser disruption of mitochondria in living cells. Medical Laser Application: International Journal for Laser Treatment and Research, 2005, 20, 185-191.	0.3	24

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37	Increasing diffraction efficiency by heating phase gratings formed by femtosecond laser irradiation in poly(methyl methacrylate). Applied Physics Letters, 2009, 94, .	3.3	21
38	Spatial Coherence of Supercontinuum Emitted from Multiple Filaments. Japanese Journal of Applied Physics, 2001, 40, 592-595.	1.5	20
39	Fabrication of Dammann Gratings in Silica Glass Using a Filament of Femtosecond Laser. Japanese Journal of Applied Physics, 2005, 44, 5014-5016.	1.5	19
40	Measurement of refractive index change induced by dark reaction of photopolymer with digital holographic quantitative phase microscopy. Optics Communications, 2012, 285, 4911-4917.	2.1	17
41	Coherent Array of White-Light Continuum Generated by Microlens Array. Optical Review, 1999, 6, 167-172.	2.0	16
42	Low-cost multi-modal microscope using Raspberry Pi. Optik, 2020, 212, 164713.	2.9	15
43	Femtosecond Laser Pulses Move Voids in Transparent Materials. Optics and Photonics News, 2001, 12, 26.	0.5	14
44	Nonlinear Ultrafast Focal-Point Optics for Microscopic Imaging, Manipulation, and Machining. Proceedings of the IEEE, 2009, 97, 1011-1030.	21.3	14
45	Fabrication of controlled volume scattering medium in poly(methyl methacrylate) by focused femtosecond laser pulses. Applied Physics Letters, 2009, 95, 221114.	3.3	14
46	In vivo manipulation of fluorescently labeled organelles in living cells by multiphoton excitation. Journal of Biomedical Optics, 2008, 13, 031213.	2.6	13
47	Application of visualization techniques for cell and tissue engineering. Journal of Bioscience and Bioengineering, 2013, 115, 122-126.	2.2	13
48	Coherence Spectrotomography: Optical Spectroscopic Tomography with Low-Coherence Interferometry. Optical Review, 2000, 7, 406-414.	2.0	11
49	Tracking a Single Organelle with Two-Photon Protein Conversion. Optics and Photonics News, 2007, 18, 20.	0.5	11
50	Coherence Spectrotomography of Layered Medium with White-Light Continuum. Optical Review, 1999, 6, 71-76.	2.0	10
51	Generation of Debris in Water-Assisted Femtosecond Laser Drilling of Silica Glass. Japanese Journal of Applied Physics, 2005, 44, 8013-8015.	1.5	10
52	Fabrication of diffractive optical elements inside polymers by femtosecond laser irradiation. Thin Solid Films, 2009, 518, 714-718.	1.8	10
53	Regenerated volume gratings in PMMA after femtosecond laser writing. Optics Letters, 2017, 42, 1632.	3.3	10
54	Ultrashort Laser Welding and Joining. Topics in Applied Physics, 2012, , 467-477.	0.8	8

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55	Dispersive Coherence Spectrotomography with White-Light Continuum. Optical Review, 1999, 6, 455-458.	2.0	7
56	Joining of transparent materials by femtosecond laser pulses. , 2007, , .		7
57	INTRACELLULAR MANIPULATION BY FEMTOSECOND LASERS: REVIEW. Journal of Innovative Optical Health Sciences, 2009, 02, 1-8.	1.0	7
58	Writing Speed Dependency of Femtosecond Laser Refractive Index Modification in Poly(dimethylsiloxane). Journal of Laser Micro Nanoengineering, 2012, 7, 171-175.	0.1	7
59	Fabricating micro-Bragg reflectors in 3-D photorefractive waveguides. Optics Express, 1998, 2, 503.	3.4	6
60	Fabrication of volume grating induced in silica glass by femtosecond laser. , 2003, , .		6
61	Regeneration of a Grating in PMMA Inscribed by Femtosecond Laser Bessel Beam. Journal of Laser Micro Nanoengineering, 2017, 12, 102-106.	0.1	6
62	Waveguide writing in bulk PMMA by femtosecond laser pulses. , 2006, , .		5
63	Laser micro-welding of silicon and borosilicate glass using nonlinear absorption effect induced by 1558-nm femtosecond fiber laser pulses. , 2007, , .		5
64	Filamentation in Ultrafast Laser Material Processing. Springer Series in Chemical Physics, 2010, , 161-181.	0.2	5
65	Contrast enhancement by oblique illumination microscopy with an LED array. Optik, 2019, 183, 92-98.	2.9	5
66	Fabrication of Diffractive Optical Elements in Polymers by 400-nm Femtosecond Laser Pulses. Journal of Laser Micro Nanoengineering, 2012, 7, 58-61.	0.1	4
67	Multi-contrast imaging of femtosecond-laser-induced modifications in glass by variable illumination with a projector-based microscope. Optik, 2017, 150, 48-53.	2.9	4
68	Dendrite-joining of air-gap-separated PMMA substrates using ultrashort laser pulses. Optical Materials Express, 2017, 7, 2141.	3.0	4
69	Mobile-phone-based Rheinberg microscope with a light-emitting diode array. Journal of Biomedical Optics, 2018, 24, 1.	2.6	4
70	<title>Coherence spectrotomography with white light continuum</title>. , 1998, 3261, 305.		3
71	Fabrication of photonic devices with femtosecond laser pulses. , 2004, 5340, 119.		3
72	Filamentation in laser microprocessing and microwelding. Proceedings of SPIE, 2007, , .	0.8	3

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73	Phase measurement of structural modifications created by femtosecond laser pulses in glass with phase-shifting digital holographic microscopy. Optical Engineering, 2017, 56, 111702.	1.0	3
74	Fabrication of PDMS-based volume Bragg gratings by stitching of femtosecond laser filament. Japanese Journal of Applied Physics, 2021, 60, 032003.	1.5	3
75	Investigation of image plane for image reconstruction of objects through diffusers via deep learning. Journal of Biomedical Optics, 2022, 27, .	2.6	3
76	High-accuracy optical computing based on interval arithmetic and the fixed-point theorem. Applied Optics, 1996, 35, 1367.	2.1	2
77	<title>Micro-Bragg reflectors in photorefractive 3D waveguides</title>. , 1997, 3137, 162.		2
78	Acquisition of Multi-Modal Images of Structural Modifications in Glass with Programmable LED-Array-Based Illumination. Applied Sciences (Switzerland), 2019, 9, 1136.	2.5	2
79	Measurement of Light-induced Refractive Index Change in Photopolymer with Quantitative Phase Microscopy. , 2011, , .		2
80	Looking through diffusers by phase correction with lensless digital holography. OSA Continuum, 2020, 3, 3536.	1.8	2
81	Optical implementation of Bakerâ€™s map using parallel feedback system. Optical Review, 1996, 3, A423.	2.0	1
82	<title>Parallelisms in interferometric fast spectral imaging</title>. , 1998, , .		1
83	<title>Dispersive coherence spectrotomography of a layered medium</title>. , 1999, , .		1
84	<title>Observation of voids and optical seizing of voids in silica glass with infrared femtosecond laser pulses</title>. , 2000, , .		1
85	Photofabrication for microphotonics in glass. , 2002, 4459, 118.		1
86	Fabrication of micro-holes in silica glass by femtosecond laser pulses. , 2003, 5063, 129.		1
87	Fabrication of Micro-Photonic Component in Silica Glass with Femtosecond Laser Pulses. Journal of the Optical Society of Korea, 2004, 8, 21-28.	0.6	1
88	Ultrafast Laser Microwelding. Optics and Photonics News, 2007, 18, 46.	0.5	1
89	Femtosecond laser fabrication of scattering medium by randomly distributed holes in polymer. , 2009, , .		1
90	Femtosecond laser direct writing of diffractive optical elements in polymers. , 2010, , .		1

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91	Direct joining and welding with ultrashort laser pulses. , 2013, , .		1
92	Welding and Joining between Transparent Materials with Femtosecond Lasers. Journal of the Japan Society for Precision Engineering, 2015, 81, 731-734.	0.1	1
93	Volume gratings and welding of glass/plastic by femtosecond laser direct writing. , 2018, , .		1
94	Laser Nanosurgery, Manipulation, and Transportation of Cells and Tissues. Springer Series in Materials Science, 2010, , 145-161.	0.6	1
95	Image acquisition with smartphone-based LED array microscope. , 2018, , .		1
96	Reconstruction of complex amplitude by lensless phase-shift digital holography through an opaque glass plate. , 2018, , .		1
97	Femtosecond laser fabrication of hybrid optical element in glass: volume grating embedded inside refractive lens. , 2019, , .		1
98	Reconstruction quality of digital holographic images using a holographic diffuser with different distances. , 2020, , .		1
99	Image reconstruction behind diffuser by deep learning and spatial filtering. , 2020, , .		1
100	Tracking moving targets with wide depth of field behind a scattering medium using deep learning. Japanese Journal of Applied Physics, 0, , .	1.5	1
101	<title>High-accuracy optical computing using motorized optical fractal synthesizer</title>. , 1996, , .		0
102	<title>Coherence spectrotomography and white-light continuum</title>. , 1999, , .		0
103	<title>Two-dimensional dispersive coherence spectrotomography with white-light continuum</title>. , 1999, 3753, 35.		0
104	<title>White-light continuum as a low-coherence light source for interferometry and its applications to dispersive coherence spectrotomography</title>. , 1999, 3744, 44.		0
105	<title>Refractive and structural changes in silica glass induced by ultrashort laser pulses</title>. , 2000, 4110, 1.		0
106	<title>Photo-induced refractive-index changes in filaments formed in glass with femtosecond laser pulses</title>. , 2000, , .		0
107	Movement of a bubble inside silica glass and calcium fluoride by irradiation of femtosecond laser pulses. , 2001, 4416, 340.		0
108	Dependence of refractive index charge in silica glass on polarization of incident ultrashort laser pulses. , 2001, , .		0

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109	Laser fabrication of photorefractive Bragg reflectors, asymmetric waveguides and void arrays in glass. , 2002, , .		0
110	Fabrication of birefringent microstructures in transparent materials with femtosecond laser pulses. , 2002, , .		0
111	Polarization dependence of refractive-index change in silica glass induced by self-trapped filament of femtosecond laser pulses. , 2003, , .		0
112	Characteristics of couplers and gratings induced by self-trapped filament of femtosecond laser pulses. , 2003, , .		0
113	Control of positions and shapes of voids in transparent materials with femtosecond laser. , 2003, , .		0
114	Femtosecond laser manipulation of subcellular organelles in living cells. , 2005, 5863, 28.		0
115	Femtosecond laser micromachining: applications in photonic device fabrication and laser joining. , 2006, , .		0
116	Nanosurgery of sub-cellular organelles in living cells using a femtosecond laser oscillator. , 2006, 6108, 7.		0
117	Selective labeling of a single organelle by using two-photon conversion of a photoconvertible fluorescent protein. , 2008, , .		0
118	Intracellular Manipulation Using Nonlinear Excitation. , 2008, , .		0
119	Secure data storage using 3D scattering medium. , 2009, , .		0
120	Optical fabrication of 3D scattering medium for secure optical memory card. , 2009, , .		0
121	Femtosecond Laser Produced Micro-Modifications in Polymers. , 2010, , .		0
122	Three-dimensional reconstruction of absorbed data in thin photonic data storage media. Proceedings of SPIE, 2010, , .	0.8	0
123	Fabrication of Three-Dimensional Micro Optical Device. The Review of Laser Engineering, 2003, 31, 276-281.	0.0	0
124	Intracellular Nanosurgery Using Near-Infrared Ultrashort Laser Pulses. The Review of Laser Engineering, 2007, 35, 448-452.	0.0	0
125	Industrial Application of Ultrashort Laser Processing. The Review of Laser Engineering, 2013, 41, 780.	0.0	0
126	Phosphor Screens for Laser Projection Systems. , 2017, , .		0

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127	Multi-contrast imaging of structural modifications produced by femtosecond laser pulses in BK7 glass with an LED array microscope. , 2018, , .		0
128	Femtosecond written buried waveguides in silicon. , 2018, , .		0
129	Implementation of a Raspberry-Pi-based LED array microscope for multi-contrast images. , 2018, , .		0
130	Formation of micro-groove on diamond by femtosecond laser micromachining. , 2019, , .		0
131	Classification of Ultrashort-Laser-Induced Modifications by LED-Array-Based Illumination and Machine Learning. , 2020, , .		0
132	Femtosecond laser integration of volume grating in BK7 glass refractive lens. Optical Engineering, 2020, 59, 1.	1.0	0