

Shigeki Matsuo

List of Publications by Year in descending order

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102
papers

5,114
citations

126907

33
h-index

88630

70
g-index

103
all docs

103
docs citations

103
times ranked

3461
citing authors

#	ARTICLE	IF	CITATIONS
1	Femtosecond laser-assisted three-dimensional microfabrication in silica. <i>Optics Letters</i> , 2001, 26, 277.	3.3	661
2	Three-dimensional photonic crystal structures achieved with two-photon-absorption photopolymerization of resin. <i>Applied Physics Letters</i> , 1999, 74, 786-788.	3.3	581
3	Reversible phase transitions in polymer gels induced by radiation forces. <i>Nature</i> , 2000, 408, 178-181.	27.8	321
4	Femtosecond laser interference technique with diffractive beam splitter for fabrication of three-dimensional photonic crystals. <i>Applied Physics Letters</i> , 2001, 79, 725-727.	3.3	292
5	Multiphoton fabrication of periodic structures by multibeam interference of femtosecond pulses. <i>Applied Physics Letters</i> , 2003, 82, 2758-2760.	3.3	201
6	Arbitrary-lattice photonic crystals created by multiphoton microfabrication. <i>Optics Letters</i> , 2001, 26, 325.	3.3	194
7	A heater-integrated transparent microchannel chip for continuous-flow PCR. <i>Sensors and Actuators B: Chemical</i> , 2002, 84, 283-289.	7.8	179
8	Microcavities in polymeric photonic crystals. <i>Applied Physics Letters</i> , 2001, 79, 1-3.	3.3	176
9	Examination of Etching Agent and Etching Mechanism on Femtosecond Laser Microfabrication of Channels Inside Vitreous Silica Substrates. <i>Journal of Physical Chemistry C</i> , 2009, 113, 11560-11566.	3.1	163
10	Three-Dimensional Optical Data Storage in Vitreous Silica. <i>Japanese Journal of Applied Physics</i> , 1998, 37, L1527-L1530.	1.5	120
11	Effect of surface roughening on femtosecond laser-induced ripple structures. <i>Applied Physics Letters</i> , 2007, 90, 153115.	3.3	116
12	Holographic lithography of periodic two- and three-dimensional microstructures in photoresist SU-8. <i>Optics Express</i> , 2006, 14, 7943.	3.4	110
13	Generation and Recombination of Defects in Vitreous Silica Induced by Irradiation with a Near-Infrared Femtosecond Laser. <i>Journal of Physical Chemistry B</i> , 2000, 104, 3450-3455.	2.6	86
14	Application of Bessel Beams for Microfabrication of Dielectrics by Femtosecond Laser. <i>Japanese Journal of Applied Physics</i> , 2001, 40, L1197-L1199.	1.5	86
15	Fast optical switching by a laser-manipulated microdroplet of liquid crystal. <i>Applied Physics Letters</i> , 1999, 74, 3627-3629.	3.3	82
16	Luminescence and defect formation by visible and near-infrared irradiation of vitreous silica. <i>Physical Review B</i> , 1999, 60, 9959-9964.	3.2	79
17	High-efficiency optical transfer of torque to a nematic liquid crystal droplet. <i>Applied Physics Letters</i> , 2003, 82, 4657-4659.	3.3	79
18	Three-Dimensional Micro- and Nano-Structuring of Materials by Tightly Focused Laser Radiation. <i>Bulletin of the Chemical Society of Japan</i> , 2008, 81, 411-448.	3.2	78

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19	Flexural Rigidity of a Single Microtubule. Japanese Journal of Applied Physics, 2002, 41, 3015-3019.	1.5	69
20	Transmission and photoluminescence images of three-dimensional memory in vitreous silica. Applied Physics Letters, 1999, 74, 3957-3959.	3.3	68
21	Surface nanostructuring of borosilicate glass by femtosecond nJ energy pulses. Applied Physics Letters, 2003, 82, 2901-2903.	3.3	66
22	Microfabrication and Characteristics of Two-Dimensional Photonic Crystal Structures in Vitreous Silica. Optical Review, 1999, 6, 396-398.	2.0	63
23	Fabrication of three-dimensional periodic microstructures in photoresist SU-8 by phase-controlled holographic lithography. New Journal of Physics, 2006, 8, 250-250.	2.9	56
24	Observation of laser-induced surface waves on flat silicon surface. Applied Physics Letters, 2008, 92, 013104.	3.3	46
25	Raman spectroscopic study of femtosecond laser-induced phase transformation associated with ripple formation on single-crystal SiC. Applied Physics A: Materials Science and Processing, 2010, 99, 23-27.	2.3	46
26	Examination of Silver Nanoparticle Fabrication by Pulsed-Laser Ablation of Flakes in Primary Alcohols. Journal of Physical Chemistry C, 2008, 112, 1321-1329.	3.1	45
27	Formation of free-standing micropyramidal colloidal crystals grown on silicon substrate. Applied Physics Letters, 2003, 82, 4283-4285.	3.3	44
28	Fabrication and direct transmission measurement of high-aspect-ratio two-dimensional silicon-based photonic crystal chips. Journal of the Optical Society of America B: Optical Physics, 2001, 18, 1084.	2.1	40
29	Rapid fabrication of electrochemical enzyme sensor chip using polydimethylsiloxane microfluidic channel. Analytica Chimica Acta, 2002, 468, 143-152.	5.4	39
30	Laser microfabrication and rotation of ship-in-a-bottle optical rotators. Applied Physics Letters, 2008, 93, 051107.	3.3	39
31	Control of the Molecular Alignment Inside Liquid-Crystal Droplets by Use of Laser Tweezers. Small, 2005, 1, 656-661.	10.0	38
32	Distinct Fine and Coarse Ripples on 4H-SiC Single Crystal Induced by Femtosecond Laser Irradiation. Japanese Journal of Applied Physics, 2006, 45, L444-L446.	1.5	37
33	Three-dimensional microfabrication by femtosecond pulses in dielectrics. Thin Solid Films, 2004, 453-454, 550-556.	1.8	36
34	Fabrication and Characteristic Responses of Integrated Microelectrodes in Polymer Channel Chip. Chemistry Letters, 2000, 29, 858-859.	1.3	33
35	Fabrication and optical characteristics of silicon-based two-dimensional photonic crystals with honeycomb lattice. Optics Communications, 2002, 211, 205-213.	2.1	31
36	Self-Organizing Three-Dimensional Colloidal Photonic Crystal Structure with Augmented Dielectric Contrast. Japanese Journal of Applied Physics, 1998, 37, L508-L511.	1.5	29

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37	Glucose Sensing Based on Interdigitated Array Microelectrode. <i>Analytical Sciences</i> , 2001, 17, 841-846.	1.6	28
38	Size Dependence of Rotation Frequency of Individual Laser Trapped Liquid Crystal Droplets. <i>Japanese Journal of Applied Physics</i> , 1999, 38, L518-L520.	1.5	27
39	Microfabrication by femtosecond laser irradiation. , 2000, 3933, 246.		27
40	In-Situ Spectroscopic Measurements of Laser Ablation-Induced Splitting and Agglomeration of Metal Nanoparticles in Solution. <i>Journal of Physical Chemistry C</i> , 2008, 112, 16801-16808.	3.1	27
41	Femtosecond laser-assisted etching of Pyrex glass with aqueous solution of KOH. <i>Applied Surface Science</i> , 2009, 255, 9758-9760.	6.1	26
42	Morphology-dependent resonant laser emission of dye-doped ellipsoidal microcavity. <i>Journal of Applied Physics</i> , 2002, 91, 916-921.	2.5	25
43	Formation of periodic strained layers associated with nanovoids inside a silicon carbide single crystal induced by femtosecond laser irradiation. <i>Journal of Applied Physics</i> , 2009, 106, .	2.5	23
44	Cross-sectional morphological profiles of ripples on Si, SiC, and HOPG. <i>Applied Physics A: Materials Science and Processing</i> , 2009, 97, 271-276.	2.3	21
45	Crosstalk in Photoluminescence Readout of Three-Dimensional Memory in Vitreous Silica by One- and Two-Photon Excitation. <i>Japanese Journal of Applied Physics</i> , 2000, 39, 6763-6767.	1.5	20
46	Three-dimensional Recording by Femtosecond Pulses in Polymer Materials. <i>Journal of Photopolymer Science and Technology</i> = [Fotoporima Konwakai Shi], 2003, 16, 427-432.	0.3	20
47	Femtosecond laser micro-fabrication for tailoring photonic crystals in resins and silica. <i>Journal of Photochemistry and Photobiology A: Chemistry</i> , 2001, 145, 41-47.	3.9	19
48	Optical third harmonic generation during femtosecond pulse diffraction in a Bragg grating. <i>Journal Physics D: Applied Physics</i> , 2006, 39, 50-53.	2.8	19
49	Microscopic analysis of carbon phases induced by femtosecond laser irradiation on single-crystal SiC. <i>Applied Physics A: Materials Science and Processing</i> , 2010, 100, 113-117.	2.3	19
50	Title is missing!. <i>Journal of Sol-Gel Science and Technology</i> , 2003, 26, 1023-1027.	2.4	18
51	Growth and property characterizations of photonic crystal structures consisting of colloidal microparticles. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2000, 17, 476.	2.1	17
52	Glass transition-assisted microstructuring in polystyrene. <i>Applied Physics Letters</i> , 2004, 84, 514-516.	3.3	17
53	Silicon surface processing techniques for micro-systems fabrication. <i>Thin Solid Films</i> , 2003, 438-439, 445-451.	1.8	16
54	Applications of a microlens array and a photomask to the laser microfabrication of a periodic photopolymer rod array. <i>Applied Optics</i> , 2007, 46, 8264.	2.1	14

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55	Time-resolved single-shot imaging of femtosecond laser induced filaments using supercontinuum and optical polarigraphy. Applied Physics Letters, 2012, 100, .	3.3	14
56	Three-Dimensional Microstructures Created by Laser Microfabrication Technology. Japanese Journal of Applied Physics, 1999, 38, L212-L215.	1.5	13
57	Silicon-based honeycomb photonic crystal structures with complete photonic band gap at 1.5 μ m wavelength. Journal of Applied Physics, 2004, 96, 6934-6936.	2.5	13
58	Matrix calculus for axially symmetric polarized beam. Optics Express, 2011, 19, 12815.	3.4	13
59	Photo-electrochemical Deposition of Platinum on TiO ₂ with Resolution of Twenty Nanometers using a Mask Elaborated with Electron-Beam Lithography. Japanese Journal of Applied Physics, 2001, 40, 4246-4251.	1.5	12
60	Direct measurement of laser power through a high numerical aperture oil immersion objective lens using a solid immersion lens. Review of Scientific Instruments, 2002, 73, 2011-2015.	1.3	12
61	<title>Fabrication of three-dimensional photonic crystals by femtosecond laser interference</title>. , 2002, 4655, 327.		12
62	Enhancement of local electrical conductivities in SiC by femtosecond laser modification. Applied Physics Letters, 2011, 98, .	3.3	12
63	Annealing of GaN-InGaN Multi Quantum Wells: Correlation between the Bandgap and Yellow Photoluminescence. Japanese Journal of Applied Physics, 2000, 39, 393-396.	1.5	11
64	Surface roughness assisted 100 kHz femtosecond laser induced nanostructure formation on silicon surface. Applied Physics A: Materials Science and Processing, 2011, 105, 89-94.	2.3	11
65	High-spatial-frequency periodic surface structures on steel substrate induced by subnanosecond laser pulses. Applied Physics Express, 2017, 10, 112701.	2.4	11
66	Inlaid α -Atom-like Three-Dimensional Photonic Crystal Structures Created with Femtosecond Laser Microfabrication. Materials Research Society Symposia Proceedings, 1999, 605, 85.	0.1	10
67	Three-Dimensional Residue-Free Volume Removal inside Sapphire by High-Temperature Etching after Irradiation of Femtosecond Laser Pulses. Laser Chemistry, 2008, 2008, 1-4.	0.5	10
68	Disappearance of a Stacking Fault in Hard-Sphere Crystals under Gravity. Progress of Theoretical Physics Supplement, 2009, 178, 33-40.	0.1	10
69	Photoelectrochemical Fabrication of Submicrometer Platinum Pattern on Titanium Dioxide Single Crystal Surface. Chemistry Letters, 1998, 27, 655-656.	1.3	9
70	<title>Three-dimensional recording and structuring of chalcogenide glasses by femtosecond pulses</title>. , 2004, , .		9
71	Femtosecond Laser Microfabrication of Photonic Crystals. , 2006, , 239-286.		8
72	Formation of Nanovoids in Femtosecond Laser-Irradiated Single Crystals of Silicon Carbide. Materials Science Forum, 0, 725, 19-22.	0.3	8

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73	Subpicosecond optical damaging of silica: time-resolved measurements of the light-induced damage threshold. , 2001, 4347, 212.		7
74	Raman Spectroscopic Stress Evaluation of Femtosecond-Laser-Modified Region Inside 4H-SiC. Applied Physics Express, 2010, 3, 016603.	2.4	7
75	Microfabrication by a high-fluence femtosecond exposure: mechanism and applications. , 2002, 4637, 159.		6
76	Three-dimensional recording by femtosecond pulses in dielectrics. , 2003, , .		6
77	Three-dimensional laser microfabrication of metals, semiconductors, and dielectrics. Proceedings of SPIE, 2007, , .	0.8	6
78	Spontaneous formation of 10- μ m-scale periodic patterns in transverse-scanning femtosecond laser processing. Optics Express, 2015, 23, 165.	3.4	6
79	Laser Fabrication of Miniature Internal Thread in Glass Substrate. Micromachines, 2017, 8, 48.	2.9	6
80	Photoelectrochemical submicrometer patterning of titanium dioxide by platinum. Journal of Electroanalytical Chemistry, 1999, 473, 235-239.	3.8	5
81	Photonic lattices achieved with high-power femtosecond laser microexplosion in transparent solid materials. , 2000, 3888, 131.		5
82	Microstructuring of Silica and Polymethylmethacrylate Glasses by Femtosecond Irradiation for MEMS Applications. Materials Research Society Symposia Proceedings, 2001, 687, 1.	0.1	5
83	Monte Carlo simulation of defects in hard-sphere crystal grown on a square pattern. World Journal of Engineering, 2012, 9, 37-44.	1.6	5
84	Possibility of Gravitational Tempering in Colloidal Epitaxy to Obtain a Perfect Crystal. Chemistry Letters, 2012, 41, 1069-1071.	1.3	5
85	Subnanosecond-laser-induced periodic surface structures on prescratched silicon substrate. Applied Physics Express, 2016, 9, 062703.	2.4	5
86	Stereolithography and 3D microstructuring of transparent materials by femtosecond laser irradiation. , 2002, , .		4
87	Laser-Scanning Direction Effect in Femtosecond Laser-Assisted Etching. Journal of Laser Micro Nanoengineering, 2013, 8, 35-38.	0.1	4
88	Application of femtosecond Bessel-Gauss beam in microstructuring of transparent materials. , 2001, 4271, 150.		3
89	<title>Anisotropic etching of dielectrics exposed by high intensity femtosecond pulses</title>. , 2005, 5850, 59.		3
90	Femtosecond Laser-Induced Surface Patterning on 4H-SiC. Materials Science Forum, 0, 600-603, 879-882.	0.3	3

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91	Reduction of pulse-to-pulse fluctuation in laser pulse energy using the optical Kerr effect. Optics Letters, 2012, 37, 1646.	3.3	3
92	Inscribing diffraction grating inside silicon substrate using a subnanosecond laser in one photon absorption wavelength. Scientific Reports, 2020, 10, 21451.	3.3	3
93	<title>Three-dimensional holographic recording by femtosecond pulses</title>. , 2003, , .		2
94	Periodic Structures of Organic-Titania Hybrid Materials Recorded by Multi-Beam Laser Interference Technique. Journal of Sol-Gel Science and Technology, 2004, 32, 287-291.	2.4	2
95	Laser manipulation of bio/biomimetic materials. , 2003, , .		1
96	Electronic Properties of Femtosecond Laser Induced Modified Spots on Single Crystal Silicon Carbide. Materials Science Forum, 0, 645-648, 239-242.	0.3	1
97	Pulse-by-pulse optical observation of laser-irradiated thin glass substrate using oil-immersion microscopy. Japanese Journal of Applied Physics, 2022, 61, 010901.	1.5	1
98	Laser internal modification plus wet etching for micro-structuring crystalline and glassy materials. , 2009, , .		0
99	Three-dimensional micro modification and selective etching of crystalline silicon using 1.56- μm subpicosecond laser pulses. , 2013, , .		0
100	Observation of Quill Effect induced by Distortion of Spatial Beam Profile. MATEC Web of Conferences, 2013, 8, 01006.	0.2	0
101	Nano-Processing of Transparent Materials by Focussed Femtosecond Laser Pulses for the Development of Novel Bio-Microchip. The Review of Laser Engineering, 2004, 32, 105-109.	0.0	0
102	Heating Effect of Etchant on Femtosecond Laser-Assisted Etching. The Review of Laser Engineering, 2013, 41, 827.	0.0	0