

Takahiro Matsumoto

List of Publications by Year in descending order

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102
papers

2,461
citations

257450

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104
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104
docs citations

104
times ranked

1884
citing authors

#	ARTICLE	IF	CITATIONS
1	Microstructure and optical properties of free-standing porous silicon films: Size dependence of absorption spectra in Si nanometer-sized crystallites. <i>Physical Review B</i> , 1993, 48, 2827-2830.	3.2	430
2	Blue-green luminescence from porous silicon carbide. <i>Applied Physics Letters</i> , 1994, 64, 226-228.	3.3	235
3	Correlation between grain size and optical properties in zinc oxide thin films. <i>Applied Physics Letters</i> , 2002, 81, 1231-1233.	3.3	157
4	Impact of Defect Control on the Polarization Properties in Bi ₄ Ti ₃ O ₁₂ Ferroelectric Single Crystals. <i>Japanese Journal of Applied Physics</i> , 2005, 44, L570-L572.	1.5	106
5	Origin of the blue and red photoluminescence from oxidized porous silicon. <i>Physical Review B</i> , 1994, 49, 14732-14735.	3.2	101
6	Visible photoluminescence of silicon-based nanostructures: Porous silicon and small silicon-based clusters. <i>Applied Physics Letters</i> , 1992, 61, 2446-2448.	3.3	82
7	Nonlinear dynamical relaxation processes in semiconductor-doped glasses at liquid-nitrogen temperature. <i>Journal of the Optical Society of America B: Optical Physics</i> , 1989, 6, 165.	2.1	65
8	Evidence of quantum size effect in nanocrystalline silicon by optical absorption. <i>Physical Review B</i> , 2001, 63, .	3.2	64
9	Tunable Fano interference effect in coupled-microsphere resonator-induced transparency. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2009, 26, 813.	2.1	62
10	Visible Electroluminescence from P-Type Crystalline Silicon/Porous Silicon/N-Type Microcrystalline Silicon Carbon PN Junction Diodes. <i>Japanese Journal of Applied Physics</i> , 1992, 31, L616-L618.	1.5	58
11	Blue electroluminescence from porous silicon carbide. <i>Applied Physics Letters</i> , 1994, 65, 3350-3352.	3.3	57
12	Blue Light Emission from Rapid-Thermal-Oxidized Porous Silicon. <i>Japanese Journal of Applied Physics</i> , 1994, 33, 586-589.	1.5	53
13	Point x-ray source using graphite nanofibers and its application to x-ray radiography. <i>Applied Physics Letters</i> , 2003, 82, 1637-1639.	3.3	52
14	Ultrafast decay dynamics of luminescence in porous silicon. <i>Physical Review B</i> , 1993, 47, 13876-13879.	3.2	51
15	Visible light emission from a junction of porous silicon and microcrystalline silicon carbide. <i>Applied Physics Letters</i> , 1993, 63, 1209-1210.	3.3	47
16	Perfect blackbody radiation from a graphene nanostructure with application to high-temperature spectral emissivity measurements. <i>Optics Express</i> , 2013, 21, 30964.	3.4	41
17	Europium silicate thin films on Si substrates fabricated by a radio frequency sputtering method. <i>Journal Physics D: Applied Physics</i> , 2000, 33, 2074-2078.	2.8	40
18	Picosecond Luminescence Decay in Porous Silicon. <i>Japanese Journal of Applied Physics</i> , 1992, 31, L619-L621.	1.5	39

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19	Hydrogen Termination and Optical Properties of Porous Silicon: Photochemical Etching Effect. Japanese Journal of Applied Physics, 1993, 32, 411-414.	1.5	35
20	Handheld deep ultraviolet emission device based on aluminum nitride quantum wells and graphene nanoneedle field emitters. Optics Express, 2012, 20, 24320.	3.4	32
21	Significant photoinduced refractive index change observed in porous silicon Fabry-Pérot resonators. Applied Physics Letters, 2000, 76, 1990-1992.	3.3	31
22	Large Induced Absorption Change in Porous Silicon and Its Application to Optical Logic Gates. Japanese Journal of Applied Physics, 1994, 33, L35-L36.	1.5	29
23	Optically Induced Absorption in Porous Silicon and Its Application to Logic Gates. Journal of the Electrochemical Society, 1995, 142, 3528-3533.	2.9	29
24	Intense electron emission from graphite nanocraters and their application to time-resolved x-ray radiography. Applied Physics Letters, 2004, 84, 1804-1806.	3.3	27
25	Electroluminescence of europium silicate thin film on silicon. Applied Physics Letters, 1999, 74, 3203-3205.	3.3	26
26	Instantaneous Water Purification by Deep Ultraviolet Light in Water Waveguide: Escherichia Coli Bacteria Disinfection. Water (Switzerland), 2019, 11, 968.	2.7	24
27	Field emission characteristics of a graphite nanoneedle cathode and its application to scanning electron microscopy. Applied Physics Letters, 2006, 88, 073511.	3.3	23
28	Smith-Purcell radiation from ultraviolet to infrared using a Si field emitter. Journal of Vacuum Science & Technology B, 2006, 24, 924.	1.3	21
29	Femtosecond vibrational relaxation measurement of azulene using temporally incoherent light. Chemical Physics Letters, 1992, 191, 627-632.	2.6	19
30	The density of states in silicon nanostructures determined by space-charge-limited current measurements. Journal of Applied Physics, 1998, 84, 6157-6161.	2.5	19
31	Transformation from plasmon-induced transparency to -induced absorption through the control of coupling strength in metal-insulator-metal structure. Optics Express, 2016, 24, 26201.	3.4	19
32	Observation of Goos-Hänchen shift in plasmon-induced transparency. Applied Physics Letters, 2018, 112, .	3.3	19
33	Preparation of ^{13}C -SiC and its application for light emitting diodes. Applied Surface Science, 1993, 65-66, 473-478.	6.1	18
34	Modified blackbody radiation spectrum of a selective emitter with application to incandescent light source design. Optics Express, 2010, 18, A192.	3.4	18
35	Luminescence from deuterium-terminated porous silicon. Thin Solid Films, 1997, 297, 31-34.	1.8	17
36	Giant and highly reflective Goos-Hänchen shift in a metal-dielectric multilayer Fano structure. Optics Express, 2019, 27, 28629.	3.4	17

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37	Observation and formulation of two-dimensional speckle in the space and the time domains. Journal of the Optical Society of America B: Optical Physics, 1995, 12, 170.	2.1	15
38	Stabilization of electron emission from nanoneedles with two dimensional graphene sheet structure in a high residual pressure region. Applied Physics Letters, 2007, 90, 103516.	3.3	15
39	Demonstration of electron beam laser excitation in the UV range using a GaN/AlGaIn multiquantum well active layer. Scientific Reports, 2017, 7, 2944.	3.3	15
40	Tailored plasmon-induced transparency in attenuated total reflection response in a metal-insulator-metal structure. Scientific Reports, 2017, 7, 17824.	3.3	15
41	High intensity pulse x-ray generation by using graphite-nanocrater cold cathode. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2005, 23, 831.	1.6	14
42	Attenuated total reflection response to wavelength tuning of plasmon-induced transparency in a metal-insulator-metal structure. Optics Letters, 2016, 41, 5274.	3.3	13
43	Light emitting devices using porous silicon and porous silicon carbide. Solid-State Electronics, 1996, 40, 501-504.	1.4	12
44	Deep-Level Energy States in Nanostructural Porous Silicon. Japanese Journal of Applied Physics, 1999, 38, 539-541.	1.5	11
45	Determining the physisorption energies of molecules on graphene nanostructures by measuring the stochastic emission-current fluctuation. Physical Review E, 2008, 77, 031611.	2.1	11
46	Delayed optical images through coupled-resonator-induced transparency. Optics Letters, 2010, 35, 3414.	3.3	11
47	Si-based optical devices using porous materials. Applied Surface Science, 1996, 92, 598-605.	6.1	10
48	Deep level energy states in porous silicon and porous silicon carbide determined by space-charge-limited current measurements. Applied Surface Science, 1999, 142, 569-573.	6.1	10
49	Y _{1-x} EuxCa ₄ O(BO ₃) ₃ thin film as a luminescent material screened by the combinatorial method. Applied Physics Letters, 2005, 86, 021104.	3.3	8
50	A combinatorial approach to the discovery and optimization of YCa ₄ O(BO ₃) ₃ -based luminescent materials. Applied Surface Science, 2006, 252, 2493-2496.	6.1	8
51	Observation of whispering gallery modes in cathode luminescence in TiO ₂ :Eu ³⁺ microspheres. Applied Physics Letters, 2006, 89, 061126.	3.3	8
52	Emission characteristics and application of graphite nanospine cathode. Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics, 2010, 28, C2C31-C2C36.	1.2	8
53	Effect of Surface Termination on the Electronic States in Nanocrystalline Porous Silicon. Japanese Journal of Applied Physics, 1999, 38, 589-592.	1.5	7
54	Advanced and delayed images through an image resonator. Optics Express, 2010, 18, 12599.	3.4	7

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55	Total Internal Reflection of Deep-Ultraviolet Light in a Water Waveguide and Its Application to Water Disinfection Technologies. <i>Water (Switzerland)</i> , 2019, 11, 294.	2.7	7
56	Transient photothermal inactivation of <i>Escherichia coli</i> stained with visible dyes by using a nanosecond pulsed laser. <i>Scientific Reports</i> , 2020, 10, 17805.	3.3	7
57	Influence of Oxygen Vacancies on the Polarization Properties in $\text{Bi}_{0.4}\text{Ti}_{0.3}\text{O}_{12}$; Ferroelectric Single Crystals. <i>Key Engineering Materials</i> , 2006, 320, 19-22.	0.4	6
58	Revealing real images of cloverleaf pattern emission sites by using field ion microscopy. <i>Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics</i> , 2010, 28, C2A1-C2A4.	1.2	6
59	Precision Breaking of a Liquid Crystal Display Panel (STN Type) by YAG Laser.. <i>Journal of the Japan Society for Precision Engineering</i> , 1997, 63, 1018-1022.	0.1	6
60	Studies on Microscopic Behavior of Ball Screw. (1st Report). Fundamental Experiments on Quasi-statical Characteristics.. <i>Journal of the Japan Society for Precision Engineering</i> , 2000, 66, 1070-1075.	0.1	6
61	PL properties of porous Si anodized with various light illuminations. <i>Applied Surface Science</i> , 1996, 92, 396-399.	6.1	5
62	Fabrication and characteristics of novel graphite field emitters for application to electron-beam-pumped light sources. <i>Journal of Vacuum Science & Technology B</i> , 2007, 25, 666.	1.3	5
63	Determination of localized states in porous silicon. <i>Journal of Luminescence</i> , 1998, 80, 203-206.	3.1	4
64	Enhancement in electron emission from polycrystalline silicon field emitter arrays coated with diamondlike carbon. <i>Journal of Applied Physics</i> , 1998, 84, 3378-3381.	2.5	4
65	Mechanism of transient photothermal inactivation of bacteria using a wavelength-tunable nanosecond pulsed laser. <i>Scientific Reports</i> , 2021, 11, 22310.	3.3	4
66	Action Spectra of Bacteria and Purification of Pollutant Water at Faucets Using a Water Waveguide Method. <i>Water (Switzerland)</i> , 2022, 14, 1394.	2.7	4
67	Laser ultrasonics for measurements of high-temperature elastic properties and internal temperature distribution. <i>Review of Scientific Instruments</i> , 2001, 72, 2777-2783.	1.3	3
68	Necessary Conditions for Two-Lobe Patterns in Field Emission Microscopy. <i>Japanese Journal of Applied Physics</i> , 2012, 51, 115601.	1.5	3
69	Quantum proton entanglement on a nanocrystalline silicon surface. <i>Physical Review B</i> , 2021, 103, .	3.2	3
70	Precision Breaking of a Silicon Wafer by YAG Laser. Double Irradiation Breaking Assisted by Mirror Surface Cooling.. <i>Journal of the Japan Society for Precision Engineering</i> , 1996, 62, 95-99.	0.1	3
71	Necessary Conditions for Two-Lobe Patterns in Field Emission Microscopy. <i>Japanese Journal of Applied Physics</i> , 2012, 51, 115601.	1.5	3
72	Photo- and Electroluminescence from Electrochemically Polished Silicon. <i>Japanese Journal of Applied Physics</i> , 1995, 34, L1318-L1321.	1.5	2

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73	RECa4O(BO3)3 thin films as new Luminescent materials screened by the combinatorial method. Journal of Physics and Chemistry of Solids, 2005, 66, 2112-2115.	4.0	2
74	Depth profiling the whispering gallery modes in TiO ₂ :Eu ³⁺ microspheres using cathode luminescence. Optics Letters, 2008, 33, 336.	3.3	2
75	Propagation of the centroid of the Poynting vector in transversely phase-modulated optical beams in spatially dispersive media. Physical Review A, 2013, 88, .	2.5	2
76	Quantum twin spectra in nanocrystalline silicon. Physical Review Materials, 2017, 1, .	2.4	2
77	Influence of Oxygen Vacancies on the Polarization Properties in Bi ₄ Ti ₃ O ₁₂ Ferroelectric Single Crystals. Key Engineering Materials, 0, , 19-22.	0.4	2
78	Stabilization of a CW Mode-Locked YAG Laser Using Feedback with an Acousto-Optic Modulator. Japanese Journal of Applied Physics, 1989, 28, 391-395.	1.5	1
79	Photo- and Electro-Luminescence from Deuterium Terminated Porous Silicon. Materials Research Society Symposia Proceedings, 1997, 486, 181.	0.1	1
80	Ratio of deuterium to hydrogen termination on silicon surface in aqueous electrolyte solutions. Applied Physics Letters, 2002, 80, 4507-4509.	3.3	1
81	Observation of Normal and Anomalous Dispersions in a Microsphere Taper Fiber System. Journal of the Physical Society of Japan, 2009, 78, 035001.	1.6	1
82	Optical electron spin orientation in Ga-doped and undoped ZnO films. AIP Conference Proceedings, 2011, , .	0.4	1
83	Demonstration of electron beam excitation laser using a GaInN-based multiquantum well active layer. Applied Physics Express, 2016, 9, 101001.	2.4	1
84	Photoluminescence from Silicon Quantum Crystallites: Core and Surface States. Japanese Journal of Applied Physics, 1995, 34, 89.	1.5	1
85	Optical bistability using photoinduced absorption change in porous silicon. Superlattices and Microstructures, 1994, 15, 61.	3.1	0
86	Photoluminescence from Porous Silicon Anodized with Monochromatic Light Illumination. Materials Research Society Symposia Proceedings, 1996, 452, 535.	0.1	0
87	Reduction of Neutral Dangling Bond Density by Light Soaking in Nanocrystalline Silicon. Materials Research Society Symposia Proceedings, 1998, 507, 747.	0.1	0
88	Stable Electron Emission from Graphite-Nanoneedles and Their Application to Scanning Electron Microscopes. , 2006, , .		0
89	Smith-Purcell Radiation from Ultraviolet to Infrared Using a Si-field Emitter. , 2007, , .		0
90	The detailed analysis of field emission under stabilized operation using field effect transistor. , 2007, , .		0

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91	Modification of the field enhancement factor for a field emitter with a surrounding electrode stabilized using a field effect transistor. Journal of Vacuum Science & Technology B, 2008, 26, 751-754.	1.3	0
92	Field emission and ion microscopy about cloverleaf pattern. , 2009, , .		0
93	The fabrication of field emission lamps by using graphite nanoneedle cold cathodes. , 2009, , .		0
94	P1–20: Specifying the necessary conditions for cloverleaf patterns formation in field emission microscope. , 2010, , .		0
95	Field Emission from Graphene Nanosheets. , 0, , .		0
96	Advanced and delayed optical images through single and coupled image resonators. , 2011, , .		0
97	New photo cathode driven by surface plasmon resonance. , 2012, , .		0
98	Fourier Analysis of Slow and Fast Image Propagation through Single and Coupled Image Resonators. International Journal of Optics, 2012, 2012, 1-9.	1.4	0
99	Blue-shifted blackbody radiation from nano-structured multi-layer emitter. , 2013, , .		0
100	High quantum efficiency photocathode using surface plasmon resonance. , 2014, , .		0
101	Determination of localized surface phonons in nanocrystalline silicon by inelastic neutron scattering spectroscopy and its application to deuterium isotope enrichment. Physical Review Materials, 2021, 5, .	2.4	0
102	Dependence of the Light Emission Characteristics on the Ne Gas Pressure in an Electron-beam-pumped Light Source Using a Field Emitter. Shinku/Journal of the Vacuum Society of Japan, 2007, 50, 319-323.	0.2	0