Masashi Kuwahara

List of Publications by Year
in descending order

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88	1,369	331670 21	377865 34
papers	citations	h-index	g-index

93	93	93	1031
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Current-driven phase-change optical gate switch using indiumâ€“tin-oxide heater. Applied Physics Express, 2017, 10, 072201.	2.4	125
2	Ultra-small, self-holding, optical gate switch using Ge_2Sb_2Te_5 with a multi-mode Si waveguide. Optics Express, 2012, 20, 10283.	3.4	92
3	Ferroelectric catastrophe: beyond nanometre-scale optical resolution. Nanotechnology, 2004, 15, 411-415.	2.6	79
4	Single-Electron Transistor with Ultra-High Coulomb Energy of 5000 K Using Position Controlled Grown Carbon Nanotube as Channel. Japanese Journal of Applied Physics, 2003, 42, 2415-2418.	1.5	52
5	Small-sized optical gate switch using Ge2Sb2Te5 phase-change material integrated with silicon waveguide. Electronics Letters, 2010, 46, 368.	1.0	52
6	What is the Origin of Activation Energy in Phase-Change Film?. Japanese Journal of Applied Physics, 2009, 48, 03A053.	1.5	48
7	Measurements of Temperature Dependence of Optical and Thermal Properties of Optical Disk Materials. Japanese Journal of Applied Physics, 2006, 45, 1419-1421.	1.5	43
8	Thermal Origin of Readout Mechanism of Light-Scattering Super-Resolution Near-Field Structure Disk. Japanese Journal of Applied Physics, 2004, 43, L8-L10.	1.5	41
9	Measurement of the thermal conductivity of nanometer scale thin films by thermoreflectance phenomenon. Microelectronic Engineering, 2007, 84, 1792-1796.	2.4	40
10	Temperature Dependence of the Thermal Properties of Optical Memory Materials. Japanese Journal of Applied Physics, 2007, 46, 3909-3911.	1.5	39
11	Electric Resistivity Measurements of Sb₂Te₃ and Ge₂Sb₂Te₅ Melts Using Four-Terminal Method. Japanese Journal of Applied Physics, 2010, 49, 065802.	1.5	38
12	On a thermally induced readout mechanism in super-resolution optical disks. Journal of Applied Physics, 2006, 100, 043106.	2.5	37
13	Ultrafast time-resolved electron diffraction revealing the nonthermal dynamics of near-UV photoexcitation-induced amorphization in Ge2Sb2Te5. Scientific Reports, 2015, 5, 13530.	3.3	36
14	Ultra-compact, self-holding asymmetric Mach-Zehnder interferometer switch using Ge₂Sb₂Te₅ phase-change material. IEICE Electronics Express, 2014, 11, 20140538-20140538.	0.8	34
15	STM light emission spectroscopy of Au film. Applied Surface Science, 1992, 60-61, 448-453.	6.1	30
16	Thermal lithography for 0.1 Î¼m pattern fabrication. Microelectronic Engineering, 2002, 61-62, 415-421.	2.4	29
17	Reversible optical gate switching in Si wire waveguide integrated with Ge2Sb2Te5 thin film. Electronics Letters, 2010, 46, 1460.	1.0	25
18	Thermal Lithography for 100-nm Dimensions Using a Nano-Heat Spot of a Visible Laser Beam. Japanese Journal of Applied Physics, 2002, 41, L1022-L1024.	1.5	24

#	Article	IF	Citations
19	High-Speed Optical Near-Field Photolithography by Super Resolution Near-Field Structure. Japanese Journal of Applied Physics, 1999, 38, L1079-L1081.	1.5	22
20	Electrical and heat conduction mechanisms of GeTe alloy for phase change memory application. Journal of Applied Physics, 2012, 112, 053712.	2.5	22
21	Thermal Conductivity Measurements of Solid Sb₂Te₃ by Hot-Strip Method. Japanese Journal of Applied Physics, 2010, 49, 078003.	1.5	21
22	Approach for measuring complex refractive index of molten Sb2Te3 by spectroscopic ellipsometry. Applied Physics Letters, 2012, 100, .	3.3	21
23	Thermal Conductivity Measurements of Sbâ€“Te Alloy Thin Films Using a Nanosecond Thermoreflectance Measurement System. Japanese Journal of Applied Physics, 2007, 46, 6863-6864.	1.5	20
24	Super-Resolutional Readout Disk with Metal-Free Phthalocyanine Recording Layer. Japanese Journal of Applied Physics, 2004, 43, L88-L90.	1.5	19
25	Reactive recording with rare-earth transition metal. Applied Physics Letters, 2001, 79, 2600-2602.	3.3	16
26	Super-Resolution Near-Field Structure with Alternative Recording and Mask Materials. Japanese Journal of Applied Physics, 2003, 42, 1014-1017.	1.5	15
27	Optical Disc Simulation Program Unified by Electromagnetic and Thermal Distributions. Japanese Journal of Applied Physics, 2006, 45, 1463-1465.	1.5	15
28	Temperature Dependence of Complex Refractive Index of Sputtered Sbâ€“Te Alloy Thin Films. Japanese Journal of Applied Physics, 2007, 46, 5278.	1.5	15
29	Thermal conductivities and conduction mechanisms of Sb-Te Alloys at high temperatures. Journal of Applied Physics, 2011, 110, 023701.	2.5	15
30	Effect of palladium particle size on the appearance of superstructure of graphite in palladium/graphite model catalyst. Surface Science, 1995, 344, L1259-L1263.	1.9	14
31	Absolute Raman scattering cross sections of surface adsorbed Cu-phthalocyanine molecules. Surface Science, 1991, 242, 544-548.	1.9	13
32	Nonlinear features and response mechanisms of a PtO_2 mask layer for optical data storage with a superresolution near-field structure. Optics Letters, 2003, 28, 1805.	3.3	13
33	Proposal of a grating-based optical reflection switch using phase change materials. Optics Express, 2009, 17, 16947.	3.4	13
34	A new lithography technique using super-resolution near-field structure. Microelectronic Engineering, 2000, 53, 535-538.	2.4	12
35	Dot formation with 170-nm dimensions using a thermal lithography technique. Microelectronic Engineering, 2003, 67-68, 651-656.	2.4	12
36	Practical use of a carbon nanotube attached to a blunt apex in an atomic force microscope. Materials Characterization, 2004, 52, 43-48.	4.4	12

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37	Measurement of Refractive Index, Specific Heat Capacity, and Thermal Conductivity for Ag_{6.0}In_{4.5}Sb_{60.8}Te_{28.7} at High Temperature. Japanese Journal of Applied Physics, 2009, 48, 05EC02.	1.5	12
38	Small-sized Mach-Zehnder Interferometer Optical Switch Using Thin Film Ge2Sb2Te5 Phase-change Material. , 2014, , .		12
39	Thermal conductivity measurements of low-k films using thermoreflectance phenomenon. Microelectronic Engineering, 2008, 85, 796-799.	2.4	11
40	Less than 0.1 Î¼m linewidth fabrication by visible light using super-resolution near-field structure. Microelectronic Engineering, 2001, 57-58, 883-890.	2.4	10
41	A Reversible Change of Reflected Light Intensity between Molten and Solidified Geâ€“Sbâ€“Te Alloy. Japanese Journal of Applied Physics, 2007, 46, L868-L870.	1.5	10
42	High-Speed Fabrication of Super-Resolution Near-Field Structure Read-Only Memory Master Disc using PtOxThermal Decomposition Lithography. Japanese Journal of Applied Physics, 2006, 45, 1379-1382.	1.5	9
43	Demonstration of 1000-times switching of phase-change optical gate with Si wire waveguides. Electronics Letters, 2011, 47, 268.	1.0	9
44	Spectroscopic Ellipsometry Measurements for Liquid and Solid InSb around Its Melting Point. Applied Physics Express, 2013, 6, 082501.	2.4	9
45	Electrical and Thermal Conductivity and Conduction Mechanism of Ge2Sb2Te5 Alloy. Journal of Electronic Materials, 2018, 47, 3184-3188.	2.2	9
46	Phase-change Janus particles with switchable dual properties. Applied Physics Letters, 2020, 117, 221601.	3.3	9
47	Improved anisotropic deep etching in KOH-solutions to fabricate highly specular surfaces. Microelectronic Engineering, 2001, 57-58, 781-786.	2.4	8
48	Nanoscale Dots Fabrication by Volume Change Thermal Lithography. Japanese Journal of Applied Physics, 2004, 43, L1045-L1047.	1.5	7
49	Measurement of the optical properties of a transparent, conductive carbon nanotube film using spectroscopic ellipsometry. Japanese Journal of Applied Physics, 2015, 54, 078001.	1.5	7
50	In-situRaman Scattering Spectroscopy for a Super Resolution Optical Disk during Readout. Applied Physics Express, 0, 2, 082402.	2.4	7
51	Local Structure of AgOxThin Layers Generating Optical Near Field: an X-Ray Absorption Fine Structure Study. Japanese Journal of Applied Physics, 2003, 42, 1022-1025.	1.5	6
52	Complex Refractive Index, Specific Heat Capacity, and Thermal Conductivity for Crystalline Sbâ€“Te Alloys and ZnSâ€“SiO₂with Various Compositions at High Temperatures. Japanese Journal of Applied Physics, 2013, 52, 128003.	1.5	6
53	Crystallization of Bi Doped Sb₈Te₂. Japanese Journal of Applied Physics, 2009, 48, 03A062.	1.5	5
54	Thermal conductivity of low-k films of varying porosity and direct measurements on silicon substrate. Microelectronic Engineering, 2009, 86, 1009-1012.	2.4	5

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55	Thermal and Electrical Conductivity of Ge1Sb4Te7 Chalcogenide Alloy. Journal of Electronic Materials, 2017, 46, 955-960.	2.2	5
56	Approaching ultrathin VO2 films on sapphire (001) substrates by biased reactive sputtering: Characteristic morphology and its effect on the infrared-light switching. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2021, 39, .	2.1	5
57	Comparison of Light-Emission Efficiencies from Siâ€“Metal-Oxide-Semiconductor Junctions and from Si in Scanning Tunneling Microscopy. Japanese Journal of Applied Physics, 2000, 39, 4904-4909.	1.5	4
58	Scanning tunneling microscope light emission spectra of polycrystalline <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si1.gif" display="inline" overflow="scroll"><mml:msub><mml:mrow><mml:mstyle mathvariant="normal"><mml:mi>Ge</mml:mi></mml:mstyle></mml:mrow><mml:mrow><mml:mn>2</mml:mn></mml:mrow></mml:m mathvariant="normal"><mml:mi>Sb</mml:mi></mml:mstyle></mml:mrow><mml:mrow><mml:mn>2</mml:mn></mml:mrow></mml:m mathvar. Solid State Communications, 2009, 149, 1902-1904.	1.9	4
59	Optical Measurement for Solid- and Liquid-Phase Sb2Te3around Its Melting Point. Japanese Journal of Applied Physics, 2013, 52, 118001.	1.5	4
60	Measurement of phonon energy of Sb2Te3 by scanning tunneling microscope light-emission spectroscopy. Solid State Communications, 2014, 177, 29-32.	1.9	4
61	Improvement in the aspect ratio of fabricated minute dots by the volume change thermal lithography technique. Microelectronic Engineering, 2005, 78-79, 359-363.	2.4	3
62	Development of a geometrical evaluation apparatus for ultrahigh 100 GB optical disk masters. Review of Scientific Instruments, 2005, 76, 083706.	1.3	3
63	Phase change characteristics of Ge 2 Sb 2 Te 5 thin film for a self-holding optical gate switch. Proceedings of SPIE, 2011, , .	0.8	3
64	Study of the shape of an optical window in a super-resolution state by electromagnetic-thermal coupled simulation: Effects of melting of an active layer in an optical disc. Journal of Applied Physics, 2014, 115, .	2.5	3
65	Measurement complex refractive index for molten optical disk materials. Netsu Bussei, 2014, 26, 128-135.	0.1	3
66	Selective scanning tunneling microscope light emission from rutile phase of VO₂. Journal of Physics Condensed Matter, 2016, 28, 385002.	1.8	3
67	Nanoscale phase change on Ge2Sb2Te5 thin films induced by optical near fields with photoassisted scanning tunneling microscope. Applied Physics Letters, 2020, 117, 211102.	3.3	3
68	Thermal Effect of Readout Mechanism on Super Resolution Near-field Structure Disk. Kyokai Joho Imeji Zasshi/Journal of the Institute of Image Information and Television Engineers, 2004, 58, 1429-1434.	0.1	3
69	Ultra-Fast Anisotropic Silicon Etching with Resulting Mirror Surfaces in Ammonia Solutions. , 2001, , 608-611.		2
70	Pumpâ€“probe STM light emission spectroscopy for detection of photo-induced semiconductorâ€“metal phase transition of VO2. Journal of Physics Condensed Matter, 2017, 29, 405001.	1.8	2
71	First principles study of the electronic and optical properties of crystalline and liquid Sb₂Te₃: Phase-transition-induced changes in optical properties. Japanese Journal of Applied Physics, 2018, 57, 09SD01.	1.5	2
72	Tuning of emission energy of single quantum dots using phase-change mask for resonant control of their interactions. Applied Physics A: Materials Science and Processing, 2015, 121, 1329-1333.	2.3	1

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73	Sbâ€“Te alloy nanostructures produced on a graphite surface by a simple annealing process. Applied Surface Science, 2015, 346, 366-371.	6.1	1
74	Response function of super-resolution readout of an optical disc studied by coupled electromagneticâ€“thermal simulation. Japanese Journal of Applied Physics, 2016, 55, 09SB02.	1.5	1
75	Implementation of pulse timing discriminator functionality into a GeSbTe/GeCuTe double layer structure. Optics Express, 2017, 25, 26825.	3.4	1
76	Optical Memories. Japanese Journal of Applied Physics, 2017, 56, 09N001.	1.5	1
77	Stress-Induced In Situ Modification of Transition Temperature in VO2 Films Capped by Chalcogenide. Materials, 2020, 13, 5541.	2.9	1
78	A Thermal Lithography Technique Using a Minute Heat Spot of a Laser Beam for 100 nm Dimension Fabrication. Topics in Applied Physics, 2003, , 79-87.	0.8	1
79	A volume change thermal lithography technique. Microelectronic Engineering, 2004, 73-74, 69-73.	2.4	1
80	<title>Volume-change thermal-lithography technique for ultra-high density optical ROM mastering process</title>. , 2004, 5662, 51.		0
81	Large Optical Transitions in Rewritable Digital Versatile Discs: An Interlayer Atomic Zipper in a SbTe Alloy. Materials Research Society Symposia Proceedings, 2008, 1072, 1.	0.1	0
82	In-situ Raman scattering spectroscopy for super resolution optical disk. , 2009, , .		0
83	Small-sized self-holding optical switch using phase-change material. , 2011, , .		0
84	Electromagnetic properties of scanning tunneling microscope tipâ€“sample gap in the terahertz frequency range. Japanese Journal of Applied Physics, 2015, 54, 08LB06.	1.5	0
85	Optical Memories. Japanese Journal of Applied Physics, 2016, 55, 09S001.	1.5	0
86	Coding two-dimensional patterns into mode spectrum of silicon microcavity covered with a phase-change film. Applied Physics A: Materials Science and Processing, 2018, 124, 1.	2.3	0
87	Pumpâ€“probe scanning-tunneling-microscope light-emission spectroscopy of Sb2Te3. Journal of Applied Physics, 2018, 124, 075104.	2.5	0
88	Nanospectroscopy of single quantum dots with local strain control using a phase-change mask. Japanese Journal of Applied Physics, 2017, 56, 08LA02.	1.5	0