Makoto Naruse

List of Publications by Citations

157 papers	1,987 citations	24 h-index	36 g-index
195 ext. papers	2,409 ext. citations	2.9 avg, IF	4.79 L-index

#	Paper	IF	Citations
157	Roadmap on optical security. *Journal of Optics (United Kingdom)*, **2016**, 18, 083001	1.7	243
156	Nanophotonics: Application of Dressed Photons to Novel Photonic Devices and Systems. *IEEE Journal of Selected Topics in Quantum Electronics*, **2008**, 14, 1404-1417	3.8	62
155	Demonstration of nanophotonic NOT gate using near-field optically coupled quantum dots. *Applied Physics B: Lasers and Optics*, **2006**, 84, 243-246	1.9	57
154	Single-photon decision maker. *Scientific Reports*, **2015**, 5, 13253	4.9	54
153	Novel frontier of photonics for data processing—Photonic accelerator. *APL Photonics*, **2019**, 4, 090901	5.2	52
152	Ultrafast photonic reinforcement learning based on laser chaos. *Scientific Reports*, **2017**, 7, 8772	4.9	51
151	Amoeba-inspired nanoarchitectonic computing: solving intractable computational problems using nanoscale photoexcitation transfer dynamics. *Langmuir*, **2013**, 29, 7557-64	4	48
150	Two-dimensional array of room-temperature nanophotonic logic gates using InAs quantum dots in mesa structures. *Applied Physics B: Lasers and Optics*, **2011**, 103, 537-546	1.9	43
149	Principles of Nanophotonics		43
148	Decision maker based on nanoscale photo-excitation transfer. *Scientific Reports*, **2013**, 3, 2370	4.9	35
147	Realization of an atomically flat surface of diamond using dressed photon—phonon etching. *Journal Physics D: Applied Physics*, **2012**, 45, 475302	3	32
146	Hierarchy in optical near-fields and its application to memory retrieval. *Optics Express*, **2005**, 13, 9265-71	3.3	32
145	Scalable photonic reinforcement learning by time-division multiplexing of laser chaos. *Scientific Reports*, **2018**, 8, 10890	4.9	32
144	Flat-band light dynamics in Stub photonic lattices. *Scientific Reports*, **2017**, 7, 15085	4.9	30
143	Decision making based on optical excitation transfer via near-field interactions between quantum dots. *Journal of Applied Physics*, **2014**, 116, 154303	2.5	30
142	Structural dependency of optical excitation transfer via optical near-field interactions between semiconductor quantum dots. *Applied Physics B: Lasers and Optics*, **2010**, 100, 181-187	1.9	29
141	Design, implementation and characterization of a quantum-dot-based volumetric display. *Scientific Reports*, **2015**, 5, 8472	4.9	28

140	Information physics fundamentals of nanophotonics. *Reports on Progress in Physics*, **2013**, 76, 056401	14.4	27
139	Nanometric summation architecture based on optical near-field interaction between quantum dots. *Optics Letters*, **2005**, 30, 201-3	3	27
138	Lower bound of energy dissipation in optical excitation transfer via optical near-field interactions. *Optics Express*, **2010**, 18 Suppl 4, A544-53	3.3	26
137	Spatiotemporal dynamics in optical energy transfer on the nanoscale and its application to constraint satisfaction problems. *Physical Review B*, **2012**, 86,	3.3	26
136	Analysis and Synthesis of Hierarchy in Optical Near-Field Interactions at the Nanoscale Based on Angular Spectrum. *Japanese Journal of Applied Physics*, **2007**, 46, 6095-6103	1.4	26
135	Quadrupole-dipole transform based on optical near-field interactions in engineered nanostructures. *Optics Express*, **2009**, 17, 11113-21	3.3	25
134	Hierarchical hologram based on optical near- and far-field responses. *Optics Express*, **2008**, 16, 607-12	3.3	24
133	Nanophotonic Computing Based on Optical Near-Field Interactions between Quantum Dots. *IEICE Transactions on Electronics*, **2005**, E88-C, 1817-1823	0.4	24
132	Dynamic channel selection in wireless communications via a multi-armed bandit algorithm using laser chaos time series. *Scientific Reports*, **2020**, 10, 1574	4.9	23
131	Amoeba-inspired nanoarchitectonic computing implemented using electrical Brownian ratchets. *Nanotechnology*, **2015**, 26, 234001	3.4	23
130	Tamper resistance in optical excitation transfer based on optical near-field interactions. *Optics Letters*, **2007**, 32, 1761-3	3	22
129	Challenges in realizing ultraflat materials surfaces. *Beilstein Journal of Nanotechnology*, **2013**, 4, 875-85	3	21
128	Optical interconnects based on optical far- and near-field interactions for high-density data broadcasting. *Optics Express*, **2006**, 14, 306-13	3.3	21
127	Nanophotonic code embedded in embossed hologram for hierarchical information retrieval. *Optics Express*, **2010**, 18, 7497-505	3.3	20
126	Harnessing the Computational Power of Fluids for Optimization of Collective Decision Making. *Philosophies*, **2016**, 1, 245-260	0.7	20
125	Optical security based on near-field processes at the nanoscale. *Journal of Optics (United Kingdom)*, **2012**, 14, 094002	1.7	19
124	Optimal mixture of randomly dispersed quantum dots for optical excitation transfer via optical near-field interactions. *Physical Review B*, **2009**, 80,	3.3	18
123	Self-organized near-field etching of the sidewalls of glass corrugations. *Applied Physics B: Lasers and Optics*, **2011**, 103, 527-530	1.9	17

122	Reconfigurable optical interconnections for parallel computing. *Proceedings of the IEEE*, **2000**, 88, 829-837	14.3	17
121	Real-time active alignment demonstration for free-space optical interconnections. *IEEE Photonics Technology Letters*, **2001**, 13, 1257-1259	2.2	17
120	Optoelectronic parallel computing using optically interconnected pipelined processing arrays. *IEEE Journal of Selected Topics in Quantum Electronics*, **1999**, 5, 250-260	3.8	16
119	Improving throughput using multi-armed bandit algorithm for wireless LANs. *Nonlinear Theory and Its Applications IEICE*, **2018**, 9, 74-81	0.6	16
118	Nano-artifact metrics based on random collapse of resist. *Scientific Reports*, **2014**, 4, 6142	4.9	15
117	Amoeba-inspired computing architecture implemented using charge dynamics in parallel capacitance network. *Applied Physics Letters*, **2013**, 103, 163703	3.4	15
116	In situ real-time monitoring of changes in the surface roughness during nonadiabatic optical near-field etching. *Nanotechnology*, **2010**, 21, 355303	3.4	15
115	Autonomy in excitation transfer via optical near-field interactions and its implications for information networking. *Nano Communication Networks*, **2011**, 2, 189-195	2.9	14
114	Energy dissipation in energy transfer mediated by optical near-field interactions and their interfaces with optical far-fields. *Applied Physics Letters*, **2012**, 100, 241102	3.4	14
113	Repairing nanoscale scratched grooves on polycrystalline ceramics using optical near-field assisted sputtering. *Applied Physics B: Lasers and Optics*, **2010**, 99, 75-78	1.9	14
112	Design and Simulation of a Nanophotonic Traceable Memory Using Localized Energy Dissipation and Hierarchy of Optical Near-Field Interactions. *IEEE Nanotechnology Magazine*, **2008**, 7, 14-19	2.6	14
111	Decision making for the multi-armed bandit problem using lag synchronization of chaos in mutually coupled semiconductor lasers. *Optics Express*, **2019**, 27, 26989-27008	3.3	14
110	Single Photon in Hierarchical Architecture for Physical Decision Making: Photon Intelligence. *ACS Photonics*, **2016**, 3, 2505-2514	6.3	14
109	Memory Effect on Adaptive Decision Making with a Chaotic Semiconductor Laser. *Complexity*, **2018**, 2018, 1-8	1.6	13
108	On-chip photonic decision maker using spontaneous mode switching in a ring laser. *Scientific Reports*, **2019**, 9, 9429	4.9	13
107	Optical pulsation mechanism based on optical near-field interactions. *Applied Physics B: Lasers and Optics*, **2011**, 102, 717-723	1.9	13
106	Information theoretical analysis of hierarchical nano-optical systems in the subwavelength regime. *Journal of the Optical Society of America B: Optical Physics*, **2009**, 26, 1772	1.7	12
105	Polarization in optical near and far fields and its relation to shape and layout of nanostructures. *Journal of Applied Physics*, **2008**, 103, 113525	2.5	12

104	Nanophotonic Matching by Optical Near-Fields between Shape-Engineered Nanostructures. *Applied Physics Express*, **2008**, 1, 112101	2.4	12
103	Ultrafast all-optical NOR gate based on intersubband and interband transitions. *IEEE Photonics Technology Letters*, **2005**, 17, 1701-1703	2.2	12
102	Entangled-photon decision maker. *Scientific Reports*, **2019**, 9, 12229	4.9	11
101	Unidirectional light propagation through two-layer nanostructures based on optical near-field interactions. *Journal of the Optical Society of America B: Optical Physics*, **2014**, 31, 2404	1.7	11
100	Demonstration of 10 Gbit Ethernet/Optical-Packet Converter for IP Over Optical Packet Switching Network. *Journal of Lightwave Technology*, **2009**, 27, 2379-2380	4	11
99	Fixed-distance coupling and encapsulation of heterogeneous quantum dots using phonon-assisted photo-curing. *Applied Physics B: Lasers and Optics*, **2013**, 110, 39-45	1.9	10
98	A stochastic modeling of morphology formation by optical near-field processes. *Applied Physics B: Lasers and Optics*, **2011**, 105, 185-190	1.9	10
97	Generative adversarial network based on chaotic time series. *Scientific Reports*, **2019**, 9, 12963	4.9	9
96	Chaotic oscillation and random-number generation based on nanoscale optical-energy transfer. *Scientific Reports*, **2014**, 4, 6039	4.9	9
95	Optical Addressing of Multi-Colour Photochromic Material Mixture for Volumetric Display. *Scientific Reports*, **2016**, 6, 31543	4.9	9
94	Analysis of surface roughness of optical elements planarized by nonadiabatic optical near-field etching. *Journal of Applied Physics*, **2009**, 105, 063516	2.5	9
93	Generating small-scale structures from large-scale ones via optical near-field interactions. *Optics Express*, **2007**, 15, 11790-7	3.3	9
92	Experimental demonstration and stochastic modeling of autonomous formation of nanophotonic droplets. *Applied Physics B: Lasers and Optics*, **2013**, 112, 587-592	1.9	8
91	Skew Dependence of Nanophotonic Devices Based on Optical Near-Field Interactions. *ACM Journal on Emerging Technologies in Computing Systems*, **2012**, 8, 1-12	1.7	8
90	Femtosecond timing measurement and control using ultrafast organic thin films. *Applied Physics Letters*, **2003**, 83, 4869-4871	3.4	8
89	Laser network decision making by lag synchronization of chaos in a ring configuration. *Optics Express*, **2020**, 28, 40112-40130	3.3	8
88	Energy Transfer in Multi-Stacked InAs Quantum Dots. *Japanese Journal of Applied Physics*, **2011**, 50, 04DH05	1.4	8
87	Analysis of Soft Robotics Based on the Concept of Category of Mobility. *Complexity*, **2019**, 2019, 1-12	1.6	7

86	Randomness in highly reflective silver nanoparticles and their localized optical fields. *Scientific Reports*, **2014**, 4, 6077	4.9	7
85	Category Theoretic Analysis of Photon-Based Decision Making. *International Journal of Information Technology and Decision Making*, **2018**, 17, 1305-1333	2.8	7
84	Optical nano artifact metrics using silicon random nanostructures. *Scientific Reports*, **2016**, 6, 32438	4.9	7
83	Nanophotonic droplet: a nanometric optical device consisting of size- and number-selective coupled quantum dots. *Applied Physics B: Lasers and Optics*, **2013**, 110, 293-297	1.9	7
82	Demonstration of modulatable optical near-field interactions between dispersed resonant quantum dots. *Optics Express*, **2011**, 19, 18260-71	3.3	7
81	Efficient optical excitation transfer in layered quantum dot nanostructures networked via optical near-field interactions. *Physical Review B*, **2010**, 82,	3.3	7
80	Stochastic processes in light-assisted nanoparticle formation. *Applied Physics Letters*, **2012**, 100, 193106	3.4	7
79	Hierarchy in Optical Near-fields by Nano-scale Shape Engineering and its Application to Traceable Memory. *Applied Physics Express*, **2008**, 1, 062004	2.4	7
78	Terabit all-optical logic based on ultrafast two-dimensional transmission gating. *Optics Letters*, **2004**, 29, 608-10	3	7
77	Decision Making Photonics: Solving Bandit Problems Using Photons. *IEEE Journal of Selected Topics in Quantum Electronics*, **2020**, 26, 1-10	3.8	7
76	Nano-optical functionality based on local photoisomerization in photochromic single crystal. *Applied Physics A: Materials Science and Processing*, **2018**, 124, 1	2.6	7
75	Unveiling the mechanisms of dressed-photon–phonon etching based on hierarchical surface roughness measure. *Applied Physics Letters*, **2013**, 102, 071603	3.4	6
74	Energy Transfer in Multi-Stacked InAs Quantum Dots. *Japanese Journal of Applied Physics*, **2011**, 50, 04DH05	1.4	6
73	Analysis and characterization of alignment for free-space optical interconnects based on singular-value decomposition. *Applied Optics*, **2000**, 39, 293-301	1.7	6
72	Generation of Schubert polynomial series via nanometre-scale photoisomerization in photochromic single crystal and double-probe optical near-field measurements. *Scientific Reports*, **2020**, 10, 2710	4.9	5
71	Near-field surface plasmon field enhancement induced by rippled surfaces. *Beilstein Journal of Nanotechnology*, **2017**, 8, 956-967	3	5
70	Optical near-field-mediated polarization asymmetry induced by two-layer nanostructures. *Optics Express*, **2013**, 21, 21857-70	3.3	5
69	Nanoscale Photonic Network for Solution Searching and Decision Making Problems. *IEICE Transactions on Communications*, **2013**, E96.B, 2724-2732	0.5	5

68	**2007**,		5
67	Multistage network with globally controlled switching stages and its implementation using optical multi-interconnection modules. *Journal of Lightwave Technology*, **2004**, 22, 315-328	4	5
66	Random walk with chaotically driven bias. *Scientific Reports*, **2016**, 6, 38634	4.9	5
65	Analysis on Effectiveness of Surrogate Data-Based Laser Chaos Decision Maker. *Complexity*, **2021**, 2021, 1-9	1.6	5
64	Nanometre-scale pattern formation on the surface of a photochromic crystal by optical near-field induced photoisomerization. *Scientific Reports*, **2018**, 8, 14468	4.9	5
63	Inkjet printing-based volumetric display projecting multiple full-colour 2D patterns. *Scientific Reports*, **2017**, 7, 46511	4.9	4
62	A note on the roles of quantum and mechanical models in social biophysics. *Progress in Biophysics and Molecular Biology*, **2017**, 130, 103-105	4.7	4
61	Hierarchy in optical near-fields based on compositions of nanomaterials. *Applied Physics B: Lasers and Optics*, **2009**, 96, 1-4	1.9	4
60	Transcription of optical near-fields by photoinduced structural change in single crystal metal complexes for parallel nanophotonic processing. *Applied Physics B: Lasers and Optics*, **2010**, 98, 685-689	1.9	4
59	User pairing using laser chaos decision maker for NOMA systems. *Nonlinear Theory and Its Applications IEICE*, **2022**, 13, 72-83	0.6	4
58	Entangled N-photon states for fair and optimal social decision making. *Scientific Reports*, **2020**, 10, 20420	4.9	4
57	Spectral speckle-correlation imaging. *Applied Optics*, **2021**, 60, 2388-2392	1.7	4
56	Arm order recognition in multi-armed bandit problem with laser chaos time series. *Scientific Reports*, **2021**, 11, 4459	4.9	4
55	Reservoir computing and decision making using laser dynamics for photonic accelerator. *Japanese Journal of Applied Physics*, **2020**, 59, 040601	1.4	3
54	Nanoscale hierarchical optical interactions for secure information. *Nanophotonics*, **2016**, 6, 613-622	6.3	3
53	Nanophotonics for Low-Power Switches **2013**, 205-241		3
52	A New Kind of Aesthetics The Mathematical Structure of the Aesthetic. *Philosophies*, **2017**, 2, 14	0.7	3
51	Analysis of optical near-field energy transfer by stochastic model unifying architectural dependencies. *Journal of Applied Physics*, **2014**, 115, 154306	2.5	3

50	Direct observation of optical excitation transfer based on resonant optical near-field interaction. *Applied Physics B: Lasers and Optics*, **2012**, 107, 257-262	1.9	3
49	Simple integration technique to realize parallel optical interconnects: implementation of a pluggable two-dimensional optical data link. *Applied Optics*, **2002**, 41, 5538-51	1.7	3
48	Conflict-free collective stochastic decision making by orbital angular momentum of photons through quantum interference. *Scientific Reports*, **2021**, 11, 21117	4.9	3
47	Lotka√Volterra Competition Mechanism Embedded in a Decision-Making Method. *Journal of the Physical Society of Japan*, **2020**, 89, 014801	1.5	3
46	Dynamic Channel Bonding Using Laser Chaos Decision Maker in WLANs **2021**,		3
45	Eigenanalysis of morphological diversity in silicon random nanostructures formed via resist collapse. *Physica A: Statistical Mechanics and Its Applications*, **2016**, 462, 883-888	3.3	3
44	Unidirectional light transmiission by two-layer nanostructures interacting via optical near-fields. *Applied Physics Express*, **2019**, 12, 022007	2.4	2
43	Stochastic model showing a transition to self-controlled particle-deposition state induced by optical near-fields. *Applied Physics B: Lasers and Optics*, **2015**, 120, 247-254	1.9	2
42	Local circular polarizations in nanostructures induced by linear polarization via optical near-fields. *Journal of the Optical Society of America B: Optical Physics*, **2015**, 32, 1797	1.7	2
41	Adaptive model selection in photonic reservoir computing by reinforcement learning. *Scientific Reports*, **2020**, 10, 10062	4.9	2
40	Category Theory Approach to Solution Searching Based on Photoexcitation Transfer Dynamics. *Philosophies*, **2017**, 2, 16	0.7	2
39	Non-scanning optical near-field microscopy for nanophotonic security. *Applied Physics A: Materials Science and Processing*, **2015**, 121, 1383-1387	2.6	2
38	Demonstration of Controlling the Spatiotemporal Dynamics of Optical Near-Field Excitation Transfer in Y-Junction Structure Consisting of Randomly Distributed Quantum Dots. *Advances in Optical Technologies*, **2014**, 2014, 1-8		2
37	Novel Layer-3 IP Packet Switching between 10 Gbps Ethernet and 80 Gbps Optical Packet-Switched Networks **2007**,		2
36	Adaptive decision making using a chaotic semiconductor laser for multi-armed bandit problem with time-varying hit probabilities. *Nonlinear Theory and Its Applications IEICE*, **2022**, 13, 112-122	0.6	2
35	Parallel Retrieval of Nanometer-Scale Light-Matter Interactions for Nanophotonic Systems. *Proceedings in Information and Communications Technology*, **2010**, 298-307		2
34	Entangled and correlated photon mixed strategy for social decision making. *Scientific Reports*, **2021**, 11, 4832	4.9	2
33	High-speed Optimization of User Pairing in NOMA System Using Laser Chaos Based MAB Algorithm **2021**,		2

32	Why is the environment important for decision making? Local reservoir model for choice-based learning. *PLoS ONE*, **2018**, 13, e0205161	3.7	2
31	Double-probe atomic force microscopy for observing spatiotemporal dynamics in a photochromic thin film. *Applied Physics Letters*, **2022**, 120, 071105	3.4	2
30	Percolation of optical excitation mediated by near-field interactions. *Physica A: Statistical Mechanics and Its Applications*, **2017**, 471, 162-168	3.3	1
29	Implementation of pulse timing discriminator functionality into a GeSbTe/GeCuTe double layer structure. *Optics Express*, **2017**, 25, 26825-26831	3.3	1
28	Observation and analysis of structural changes in fused silica by continuous irradiation with femtosecond laser light having an energy density below the laser-induced damage threshold. *Beilstein Journal of Nanotechnology*, **2014**, 5, 1334-40	3	1
27	Scale-dependent Optical Near-fields in InAs Quantum Dots and Their Application to Non-pixelated Memory Retrieval. *Applied Physics Express*, **2008**, 1, 072101	2.4	1
26	Dynamic channel bonding in WLANs by hierarchical laser chaos decision maker. *Nonlinear Theory and Its Applications IEICE*, **2022**, 13, 84-100	0.6	1
25	Nanointelligence: Information Physics Fundamentals for Nanophotonics. *Nano-optics and Nanophotonics*, **2014**, 1-39	0	1
24	Fast dynamics of low-frequency fluctuations in a quantum-dot laser with optical feedback. *Optics Express*, **2021**, 29, 17962-17975	3.3	1
23	Boundary formation in photochromic diarylethene single crystals and its catastrophe theory modeling. *Applied Physics Express*, **2021**, 14, 075003	2.4	1
22	Low latency information transfer based on precision time synchronization via wireless interferometry. *Nonlinear Theory and Its Applications IEICE*, **2021**, 12, 225-235	0.6	1
21	Delay-Bounded Wireless Network Based on Precise Time Synchronization Using Wireless Two-Way Interferometry. *IEEE Access*, **2021**, 9, 85084-85100	3.5	1
20	Decision making for large-scale multi-armed bandit problems using bias control of chaotic temporal waveforms in semiconductor lasers.. *Scientific Reports*, **2022**, 12, 8073	4.9	1
19	Compressive propagation with coherence.. *Optics Letters*, **2022**, 47, 613-616	3	0
18	BER Minimization by User Pairing in Downlink NOMA Using Laser Chaos Decision-Maker. *Electronics (Switzerland)*, **2022**, 11, 1452	2.6	0
17	Efficient Pairing in Unknown Environments: Minimal Observations and TSP-based Optimization. *IEEE Access*, **2022**, 1-1	3.5	0
16	Experimental demonstration of random walk by probability chaos using single photons. *Applied Physics Express*, **2020**, 13, 042006	2.4	
15	Physarum-Inspired Electronic and Nanoelectronic Computing Systems. *Emergence, Complexity and Computation*, **2016**, 109-132	0.1	

14   Probe-Free Nanophotonic Systems: Macroscale Applications Based on Nanophotonics **2013**, 909-942

13   Nanophotonic Systems Based on Localized and Hierarchical Optical Near-Field Processes **2013**, 875-907

12   A Nanophotonic Computing Paradigm: Problem-Solving and Decision-Making Systems Using Spatiotemporal Photoexcitation Transfer Dynamics. *Nano-optics and Nanophotonics*, **2014**, 223-244   0

11   High-bandwidth measurement of femtosecond optical pulse timing based on two-dimensional transmission gating and parallel processing. *Optics Express*, **2005**, 13, 860-6   3.3

10   Plasmonic circuits for nanophotonic devices **2006**, 6323, 79

9   Optically interconnected pipelined parallel processing system: OCULAR-II **2000**, 4089, 440

8   Parallel Confocal Microscope using Vertical-Cavity Surface Emitting Laser Array. *Microscopy and Microanalysis*, **2001**, 7, 1004-1005   0.5

7   Experimental demonstration of adaptive model selection based on reinforcement learning in photonic reservoir computing. *Nonlinear Theory and Its Applications IEICE*, **2022**, 13, 123-138   0.6

6   Experimental demonstration of channel order recognition in wireless communications by laser chaos time series and confidence intervals. *Nonlinear Theory and Its Applications IEICE*, **2022**, 13, 101-111   0.6

5   Signal processing using optical near-field interactions. *The Review of Laser Engineering*, **2006**, 34, 234-235   5

4   System Architectures for Nanophotonics: From Physical Principles to Functions in Systems. *Hyomen Kagaku*, **2009**, 30, 620-625

3   Probe-Free Nanophotonic Systems: Macro-Scale Applications Based on Nanophotonics **2011**, 59-92

2   Engineering of a Nanometric Optical System Based on Optical Near-Field Interactions for Macro-Scale Applications. *Nano-optics and Nanophotonics*, **2014**, 161-182   0

1   Photonic Computing Highlighting Ultimate Nature of Light: Decision Making by Photonics. *Ieice Ess Fundamentals Review*, **2022**, 15, 310-317   0.1