Osamu Matoba

List of Publications by Citations

227 papers	3,947 citations	32 h-index	56 g-index
361 ext. papers	4,977 ext. citations	2.2 avg, IF	5.48 L-index

#	Paper	IF	Citations
227	Encrypted optical memory system using three-dimensional keys in the Fresnel domain. *Optics Letters*, **1999**, 24, 762-4	3	392
226	. *Proceedings of the IEEE*, **2009**, 97, 1128-1148	14.3	232
225	Optoelectronic information encryption with phase-shifting interferometry. *Applied Optics*, **2000**, 39, 2313-20	1.7	154
224	Parallel two-step phase-shifting digital holography. *Applied Optics*, **2008**, 47, D183-9	1.7	143
223	Real-time three-dimensional object reconstruction by use of a phase-encoded digital hologram. *Applied Optics*, **2002**, 41, 6187-92	1.7	136
222	. *Proceedings of the IEEE*, **2006**, 94, 636-653	14.3	127
221	High-speed phase imaging by parallel phase-shifting digital holography. *Optics Letters*, **2011**, 36, 4131-3	3	97
220	Encrypted optical storage with angular multiplexing. *Applied Optics*, **1999**, 38, 7288-93	1.7	92
219	Parallel three-step phase-shifting digital holography. *Applied Optics*, **2006**, 45, 2995-3002	1.7	86
218	Shift-invariant three-dimensional object recognition by means of digital holography. *Applied Optics*, **2001**, 40, 3877-86	1.7	78
217	Digital holography and its multidimensional imaging applications: a review. *Microscopy (Oxford, England)*, **2018**, 67, 55-67	1.3	74
216	Secure optical memory system with polarization encryption. *Applied Optics*, **2001**, 40, 2310-5	1.7	72
215	Secure optical storage that uses fully phase encryption. *Applied Optics*, **2000**, 39, 6689-94	1.7	70
214	Encrypted optical storage with wavelength-key and random phase codes. *Applied Optics*, **1999**, 38, 6785-90	1.7	63
213	Experimental demonstration of parallel two-step phase-shifting digital holography. *Optics Express*, **2010**, 18, 18975-80	3.3	62
212	Parallel phase-shifting digital holographic microscopy. *Biomedical Optics Express*, **2010**, 1, 610-616	3.5	61
211	Secure holographic memory by double-random polarization encryption. *Applied Optics*, **2004**, 43, 2915-9	1.7	61

210	Optical retrieval of encrypted digital holograms for secure real-time display. *Optics Letters*, **2002**, 27, 321-3	3	57
209	Real-time three-dimensional object recognition with multiple perspectives imaging. *Applied Optics*, **2001**, 40, 3318-25	1.7	54
208	Parallel phase-shifting digital holography with adaptive function using phase-mode spatial light modulator. *Applied Optics*, **2012**, 51, 2633-7	1.7	48
207	Image quality improvement of parallel four-step phase-shifting digital holography by using the algorithm of parallel two-step phase-shifting digital holography. *Optics Express*, **2010**, 18, 9555-60	3.3	47
206	Single-shot incoherent digital holography using a dual-focusing lens with diffraction gratings. *Optics Letters*, **2017**, 42, 383-386	3	44
205	Transmissive optical imaging device with micromirror array **2006**, 6392, 130		44
204	Three-dimensional polarimetric integral imaging. *Optics Letters*, **2004**, 29, 2375-7	3	40
203	Multidimensional optical sensor and imaging system. *Applied Optics*, **2006**, 45, 2986-94	1.7	39
202	Comparison of passive ranging integral imaging and active imaging digital holography for three-dimensional object recognition. *Applied Optics*, **2004**, 43, 452-62	1.7	39
201	Improvement of color reproduction in color digital holography by using spectral estimation technique. *Applied Optics*, **2011**, 50, H177-82	0.2	38
200	Parallel phase-shifting color digital holography using two phase shifts. *Applied Optics*, **2009**, 48, H244-50	0.2	37
199	Phase and fluorescence imaging by combination of digital holographic microscopy and fluorescence microscopy. *Optical Review*, **2015**, 22, 349-353	0.9	35
198	Optical voice recorder by off-axis digital holography. *Optics Letters*, **2014**, 39, 6549-52	3	35
197	High-Speed Three-Dimensional Microscope for Dynamically Moving Biological Objects Based on Parallel Phase-Shifting Digital Holographic Microscopy. *IEEE Journal of Selected Topics in Quantum Electronics*, **2012**, 18, 1387-1393	3.8	32
196	Fabrication experiment of photorefractive three-dimensional waveguides in lithium niobate. *Optics Letters*, **1994**, 19, 652-4	3	32
195	Single-shot polarization-imaging digital holography based on simultaneous phase-shifting interferometry. *Optics Letters*, **2011**, 36, 3254-6	3	31
194	Single-shot femtosecond-pulsed phase-shifting digital holography. *Optics Express*, **2012**, 20, 20286-91	3.3	30
193	Four-Wavelength Color Digital Holography. *Journal of Display Technology*, **2012**, 8, 570-576		29

192	Comparative analysis and quantitative evaluation of the field of view and the viewing zone of single-shot phase-shifting digital holography using space-division multiplexing. *Optical Review*, **2010**, 17, 519-524	0.9	29
191	Common-path multimodal three-dimensional fluorescence and phase imaging system. *Journal of Biomedical Optics*, **2020**, 25, 1-15	3.5	29
190	Optical voice encryption based on digital holography. *Optics Letters*, **2017**, 42, 4619-4622	3	27
189	Multimodal Imaging Based on Digital Holography. *Proceedings of the IEEE*, **2017**, 105, 906-923	14.3	26
188	Image reconstruction algorithm for recovering high-frequency information in parallel phase-shifting digital holography [Invited]. *Applied Optics*, **2013**, 52, A210-5	1.7	23
187	Single-shot dual-wavelength phase unwrapping in parallel phase-shifting digital holography. *Optics Letters*, **2014**, 39, 2374-7	3	22
186	Injection locking of a broad-area diode laser through a double phase-conjugate mirror. *Optics Communications*, **1998**, 146, 6-10	2	22
185	Reflection-type holographic disk memory with random phase shift multiplexing. *Applied Optics*, **2006**, 45, 3270-4	1.7	22
184	Improvement in holographic storage capacity by use of double-random phase encryption. *Applied Optics*, **2001**, 40, 4721-7	1.7	22
183	Three-dimensional stimulation and imaging-based functional optical microscopy of biological cells. *Optics Letters*, **2018**, 43, 5447-5450	3	22
182	Array of photorefractive waveguides for massively parallel optical interconnections in lithium niobate. *Optics Letters*, **1996**, 21, 122-4	3	21
181	Parallel two-step phase-shifting digital holography using polarization. *Optical Review*, **2010**, 17, 108-113	0.9	20
180	Secure three-dimensional data transmission and display. *Applied Optics*, **2004**, 43, 2285-91	1.7	20
179	Narrow bandwidth operation of high-power broad-area diode laser using cascaded phase-conjugate injection locking. *Applied Physics B: Lasers and Optics*, **1999**, 68, 1021-1025	1.9	20
178	Imaging Characteristics of Transmission-Type Volume Holographic Imaging Elements. *Japanese Journal of Applied Physics*, **2007**, 46, 605-611	1.4	19
177	Segmented photorefractive waveguides in LiNbO 3 :Fe. *Journal of the Optical Society of America B: Optical Physics*, **1998**, 15, 2006	1.7	19
176	Space-Bandwidth Capacity-Enhanced Digital Holography. *Applied Physics Express*, **2013**, 6, 022502	2.4	19
175	One million fps digital holography. *Electronics Letters*, **2014**, 50, 1693-1695	1.1	18

174	Spatial-carrier phase-shifting digital holography utilizing spatial frequency analysis for the correction of the phase-shift error. *Optics Letters*, **2012**, 37, 148-50	3	18
173	Parallel phase-shifting color digital holographic microscopy. *3D Research*, **2010**, 1, 1	2.4	17
172	Parallel Phase-Shifting Digital Holography Capable of Simultaneously Capturing Visible and Invisible Three-Dimensional Information. *Journal of Display Technology*, **2010**, 6, 472-478		17
171	Secure ultrafast communication with spatial-temporal converters. *Applied Optics*, **2000**, 39, 2975-81	1.7	17
170	Performance comparison of bilinear interpolation, bicubic interpolation, and B-spline interpolation in parallel phase-shifting digital holography. *Optical Review*, **2013**, 20, 193-197	0.9	16
169	Numerical estimation of storage capacity in reflection-type holographic disk memory with three-dimensional speckle-shift multiplexing. *Journal of the Optical Society of America A: Optics and Image Science, and Vision*, **2009**, 26, 2269-74	1.8	16
168	Three-dimensional imaging of distribution of refractive index by parallel phase-shifting digital holography using Abel inversion. *Optics Express*, **2017**, 25, 18066-18071	3.3	15
167	Numerical evaluation of angular multiplexing in reflection-type holographic data storage in photopolymer with shrinkage. *Applied Optics*, **2010**, 49, 694-700	0.2	15
166	Characteristics of vibration frequency measurement based on sound field imaging by digital holography. *OSA Continuum*, **2018**, 1, 200	1.4	15
165	Fast acquisition system for digital holograms and image processing for three-dimensional display with data manipulation. *Applied Optics*, **2006**, 45, 8945-50	1.7	14
164	Photorefractive and photochromic properties of Ru doped Sr0.61Ba0.39Nb2O6 crystal. *Optics Communications*, **2002**, 213, 373-378	2	14
163	Multiwavelength parallel phase-shifting digital holography using angular multiplexing. *Optics Letters*, **2013**, 38, 2789-91	3	13
162	Comparative evaluation of the image-reconstruction algorithms of single-shot phase-shifting digital holography. *Journal of Electronic Imaging*, **2012**, 21, 013021	0.7	13
161	Image-based numerical evaluation techniques in volume holographic memory systems. *Journal of the Optical Society of America B: Optical Physics*, **2007**, 24, 792	1.7	13
160	Parallel optical-path-length-shifting digital holography. *Applied Optics*, **2009**, 48, H160-7	0.2	12
159	Modification of Photorefractive Waveguides in Lithium Niobate by Guided Beam for Optical Dynamic Interconnection. *Optical Review*, **1995**, 2, 438-443	0.9	12
158	Digital four-step phase-shifting technique from a single fringe pattern using Riesz transform. *Optics Letters*, **2019**, 44, 3434-3437	3	12
157	Speckle denoising techniques in imaging systems. *Journal of Optics (United Kingdom)*, **2020**, 22, 063001	1.7	11

156	Improvement of Image Quality of 3D Display by Using Optimized Binary Phase Modulation and Intensity Accumulation. *Journal of Display Technology*, **2016**, 12, 472-477		11
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153	Construction of a portable parallel phase-shifting digital holography system. *Optical Engineering*, **2011**, 50, 091304	1.1	11
152	Single-shot dual-illumination phase unwrapping using a single wavelength. *Optics Letters*, **2012**, 37, 4002-4	3	11
151	Fabrication of controlled volume scattering medium in poly(methyl methacrylate) by focused femtosecond laser pulses. *Applied Physics Letters*, **2009**, 95, 221114	3.4	11
150	Optical authentication method using a three-dimensional phase object with various wavelength readouts. *Applied Optics*, **2008**, 47, 4400-4	0.2	11
149	Speckle denoising by variant nonlocal means methods. *Applied Optics*, **2019**, 58, 7110-7120	1.7	11
148	Parallel phase-shifting digital holography using spectral estimation technique. *Applied Optics*, **2014**, 53, G123-9	1.7	10
147	Assessment of weak light condition in parallel four-step phase-shifting digital holography. *Applied Optics*, **2013**, 52, A131-5	1.7	10
146	Light-in-Flight Recording by Parallel Phase-Shifting Digital Holography. *Applied Physics Express*, **2013**, 6, 092501	2.4	10
145	Compensation algorithm for the phase-shift error of polarization-based parallel two-step phase-shifting digital holography. *Applied Optics*, **2011**, 50, B31-7	0.2	10
144	Algorithm for reconstructing wide space-bandwidth information in parallel two-step phase-shifting digital holography. *Optics Express*, **2012**, 20, 19806-14	3.3	10
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142	Advances in passive imaging elements with micromirror array **2008**,		10
141	The keys to holographic data security. *IEEE Circuits and Devices: the Magazine of Electronic and Photonic Systems*, **2000**, 16, 8-15		10
140	Three-dimensional fluorescence imaging using the transport of intensity equation. *Journal of Biomedical Optics*, **2019**, 25, 1-7	3.5	10
139	Security-enhanced optical voice encryption in various domains and comparative analysis. *Applied Optics*, **2019**, 58, 3013-3022	1.7	10

138	Astigmatism and deformation correction for a holographic head-mounted display with a wedge-shaped holographic waveguide. *Applied Optics*, **2018**, 57, 7094-7101	1.7	9
137	Image recovery from defocused 2D fluorescent images in multimodal digital holographic microscopy. *Optics Letters*, **2017**, 42, 1796-1799	3	9
136	Iterative algorithm of phase determination in digital holography for real-time recording of real objects. *Applied Optics*, **2007**, 46, 6849-53	1.7	9
135	Single-shot common-path off-axis dual-wavelength digital holographic microscopy. *Applied Optics*, **2020**, 59, 7144-7152	1.7	9
134	Holographic multi-parameter imaging of dynamic phenomena with visual and audio features. *Optics Letters*, **2019**, 44, 995-998	3	9
133	High Dynamic Range Digital Holography and Its Demonstration by Off-Axis Configuration. *IEEE Transactions on Industrial Informatics*, **2016**, 12, 1658-1663	11.9	8
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129	Parallel processing for multiplication modulo by means of phase modulation. *Applied Optics*, **2008**, 47, 611-6	1.7	8
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127	Structural Design of Nonlinear optical Chromophores for High-Performance Photorefractive Polymers. *Japanese Journal of Applied Physics*, **2003**, 42, 2699-2704	1.4	8
126	Single-shot common-path off-axis digital holography: applications in bioimaging and optical metrology [Invited]. *Applied Optics*, **2021**, 60, A195-A204	1.7	8
125	Digital Holographic Multimodal Cross-Sectional Fluorescence and Quantitative Phase Imaging System. *Scientific Reports*, **2020**, 10, 7580	4.9	7
124	Superresolution of interference fringes in parallel four-step phase-shifting digital holography. *Optics Letters*, **2014**, 39, 1673-6	3	7
123	High-speed cross-sectional imaging of valuable documents using common-path swept-source optical coherence tomography. *Applied Optics*, **2011**, 50, H165-70	0.2	7
122	Wide-Angle Wavefront Reconstruction Near Display Plane in Three-Dimensional Display System. *Journal of Display Technology*, **2010**, 6, 517-521		7
121	Speckle-Shift Multiplexing along Axial Direction in Reflection-Type Holographic Memory. *Japanese Journal of Applied Physics*, **2007**, 46, 3832-3836	1.4	7

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119	Interferenceless coded aperture correlation holography with synthetic point spread holograms. *Applied Optics*, **2020**, 59, 7321-7329	1.7	7
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117	Detection and evaluation of security features embedded in paper using spectral-domain optical coherence tomography. *Optical Review*, **2011**, 18, 171-175	0.9	6
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114	Analysis of Photo-Induced Waveguide in Lithium Niobate Crystal. *Optical Review*, **1994**, 1, 73-75	0.9	6
113	Learning Generalization by Validation Set. *Japanese Journal of Applied Physics*, **1992**, 31, 2459-2462	1.4	6
112	Multimodal Microscopy: Fast Acquisition of Quantitative Phase and Fluorescence Imaging in 3D Space. *IEEE Journal of Selected Topics in Quantum Electronics*, **2021**, 27, 1-11	3.8	6
111	Experimental verification of reconstructed absorbers embedded in scattering media by optical power ratio distribution. *Applied Optics*, **2016**, 55, 6874-9	0.2	5
110	Removal of residual images in parallel phase-shifting digital holography. *Optical Review*, **2013**, 20, 7-12	0.9	5
109	Mutually pumped phase conjugators with picosecond pulses. *Journal of the Optical Society of America B: Optical Physics*, **1998**, 15, 1971	1.7	5
108	Review of three-dimensional imaging of dynamic objects by parallel phase-shifting digital holography. *Optical Engineering*, **2018**, 57, 1	1.1	5
107	High-speed imaging of the sound field by parallel phase-shifting digital holography. *Applied Optics*, **2021**, 60, A179-A187	1.7	5
106	Astigmatism correction and quality optimization of computer-generated holograms for holographic waveguide displays. *Optics Express*, **2020**, 28, 5519-5527	3.3	5
105	Improvement of Storage Capacity Using Confocal Scheme in Reflection-Type Holographic Memory System with Speckle Shift Multiplexing. *Japanese Journal of Applied Physics*, **2011**, 50, 09ME08	1.4	5
104	Improvement of a System for Prime Factorization Based on Optical Interferometer. *Lecture Notes in Computer Science*, **2009**, 124-129	0.9	5
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101	Tracking system by phase conjugation for laser energy transmission **2007**,		4
100	ODINN in LiN: optical dynamic interconnections for neural networks in lithium niobate **1995**,		4
99	Optical multimodal biometric encryption that uses digital holography. *Journal of Optics (United Kingdom)*, **2020**, 22, 115703	1.7	4
98	Effect of intensity quantization level in parallel phase-shifting digital holography. *Optical Review*, **2013**, 20, 463-468	0.9	3
97	Influence of spatial coherence degree in fluorescence digital holography **2013**,		3
96	Optical-path-length-shifting color digital holography. *Optical Review*, **2011**, 18, 180-183	0.9	3
95	An Optical Parallel System for Prime Factorization. *Japanese Journal of Applied Physics*, **2009**, 48, 09LA02	1.4	3
94	Multiresolution Coding Using Amplitude and Phase Modulations for Holographic Data Storage. *Japanese Journal of Applied Physics*, **2011**, 50, 09ME04	1.4	3
93	Secure data storage by three-dimensional absorbers in highly scattering volume medium. *Journal of Physics: Conference Series*, **2008**, 139, 012003	0.3	3
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91	Detection of small in-plane vibrations using the polarization self-modulation effect in GaP. *Journal of Optics*, **2003**, 5, S457-S461		3
90	Photorefractive effect in the relaxor ferroelectric material 0.91Pb(Zn1/3Nb2/3)O3-0.09PbTiO3. *Optics Letters*, **2003**, 28, 420-2	3	3
89	Three-dimensional object reconstruction using phase-only information from a digital hologram **2002**,		3
88	Secure Ultrafast Data Communication and Processing. *Optics and Photonics News*, **2002**, 13, 70	1.9	3
87	Characteristics of Weight Function in a Steady-state Diffusion Optical Tomography. *IEEJ Transactions on Fundamentals and Materials*, **2007**, 127, 397-401	0.2	3
86	An Optical Interferometer for Parallel Modulo Operation. *The Review of Laser Engineering*, **2008**, 36, 1327-1330		3
85	Dynamic phase measurement of a transparent object by parallel phase-shifting digital holography with dual polarization imaging cameras. *Optics and Lasers in Engineering*, **2021**, 141, 106583	4.6	3

84	Hamiltonian-based ray-tracing method with triangular-mesh representation for a large-scale cloaking device with an arbitrary shape. *Applied Optics*, **2016**, 55, 3456-61	0.2	3
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82	Available number of multiplexed holograms based on signal-to-noise ratio analysis in reflection-type holographic memory using three-dimensional speckle-shift multiplexing. *Applied Optics*, **2014**, 53, 5733-9	1.7	2
81	Parallel phase-shifting dual-illumination phase unwrapping. *Optical Review*, **2012**, 19, 366-370	0.9	2
80	Digital holographic measurement and phase reconstruction of 3D object based on wavefront data. *3D Research*, **2011**, 2, 1	2.4	2
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78	Improvement of Storage Capacity Using Confocal Scheme in Reflection-Type Holographic Memory System with Speckle Shift Multiplexing. *Japanese Journal of Applied Physics*, **2011**, 50, 09ME08	1.4	2
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72	Optical identification system of three-dimensional random phase object by use of speckle patterns in propagation distances. *Journal of Physics: Conference Series*, **2007**, 77, 012009	0.3	2
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70	Three-dimensional/two-dimensional convertible display based on computer-generated holograms and an amplitude-modulated spatial light modulator. *Optical Engineering*, **2018**, 57, 1	1.1	2
69	Multi-modal Digital Holographic Microscopy and Demonstration on Dual-excitation Fluorescence **2016**,		2
68	Evaluation and design of a large-scale cloaking device by the Hamiltonian-based ray-tracing method Part II: design of the distribution of constitutive parameters. *Journal of the Optical Society of America B: Optical Physics*, **2017**, 34, 1052	1.7	2
67	A Method for Modulo Operation by Use of Spatial Parallelism. *Lecture Notes in Computer Science*, **2008**, 98-103	0.9	2

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65	Multi-Physical Parameter Cross-Sectional Imaging of Quantitative Phase and Fluorescence by Integrated Multimodal Microscopy. *IEEE Journal of Selected Topics in Quantum Electronics*, **2021**, 27, 1-9	3.8	2
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62	Reconstruction evaluation of intensity ratio distribution for extraction of absorber information in homogeneous scattering medium. *Optical Review*, **2016**, 23, 10-16	0.9	1
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60	Single-shot digital holography using a spectral estimation technique. *Applied Spectroscopy*, **2014**, 68, 1296-301	3.1	1
59	Space-bandwidth extension in single-shot digital holography using spatial carrier **2013**,		1
58	Digital holographic spectroscopy using spectral estimation technique **2013**,		1
57	Optical sound wave recording by digital holography with heterodyne technique **2017**,		1
56	**2015**,		1
55	Observation of femtosecond light pulse propagation by using digital light-in-flight recording by holography **2013**,		1
54	Single shot ghost imaging **2013**,		1
53	20000-frames-per-second phase-shifting digital holography **2010**,		1
52	High-speed parallel phase-shifting digital holography **2011**,		1
51	Background Noise Reduction in an Integrated Volume Holographic Imaging Element for Eye-Gaze Detection. *Japanese Journal of Applied Physics*, **2009**, 48, 09LE04	1.4	1
50	Three-dimensional display based on phase modulation **2012**,		1
49	Femtosecond laser fabrication of scattering medium by randomly distributed holes in polymer **2009**,		1

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39	Digital holographic sound imaging for frequency estimation of piezoelectric vibrator **2018**,		1
38	Single-shot incoherent digital holography using parallel phase-shifting radial shearing interferometry **2018**,		1
37	Parallel Phase-Shifting Digital Holography Using Femtosecond Laser Pulse **2011**,		1
36	Multiresolution Coding Using Amplitude and Phase Modulations for Holographic Data Storage. *Japanese Journal of Applied Physics*, **2011**, 50, 09ME04	1.4	1
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