Hao Jiang

List of Publications by Citations

101 papers	6,307 citations	27 h-index	79 g-index
108 ext. papers	7,914 ext. citations	7 avg, IF	5.73 L-index

#	Paper	IF	Citations
101	Memristors with diffusive dynamics as synaptic emulators for neuromorphic computing. *Nature Materials*, **2017**, 16, 101-108	27	1201
100	Analogue signal and image processing with large memristor crossbars. *Nature Electronics*, **2018**, 1, 52-59	28.4	550
99	Fully memristive neural networks for pattern classification with unsupervised learning. *Nature Electronics*, **2018**, 1, 137-145	28.4	511
98	Black Phosphorus Mid-Infrared Photodetectors with High Gain. *Nano Letters*, **2016**, 16, 4648-55	11.5	476
97	Efficient and self-adaptive in-situ learning in multilayer memristor neural networks. *Nature Communications*, **2018**, 9, 2385	17.4	371
96	Memristor-Based Analog Computation and Neural Network Classification with a Dot Product Engine. *Advanced Materials*, **2018**, 30, 1705914	24	339
95	Anatomy of Ag/Hafnia-Based Selectors with 10 Nonlinearity. *Advanced Materials*, **2017**, 29, 1604457	24	245
94	Memristor crossbar arrays with 6-nm half-pitch and 2-nm critical dimension. *Nature Nanotechnology* , **2019**, 14, 35-39	28.7	231
93	Efficient electrical control of thin-film black phosphorus bandgap. *Nature Communications*, **2017**, 8, 14474	17.4	183
92	Emerging Memory Devices for Neuromorphic Computing. *Advanced Materials Technologies*, **2019**, 4, 1806589	6.8	181
91	A novel true random number generator based on a stochastic diffusive memristor. *Nature Communications*, **2017**, 8, 882	17.4	180
90	Long short-term memory networks in memristor crossbar arrays. *Nature Machine Intelligence*, **2019**, 1, 49-57	22.5	176
89	Threshold Switching of Ag or Cu in Dielectrics: Materials, Mechanism, and Applications. *Advanced Functional Materials*, **2018**, 28, 1704862	15.6	168
88	Reinforcement learning with analogue memristor arrays. *Nature Electronics*, **2019**, 2, 115-124	28.4	166
87	Capacitive neural network with neuro-transistors. *Nature Communications*, **2018**, 9, 3208	17.4	132
86	Sub-10 nm Ta Channel Responsible for Superior Performance of a HfO2 Memristor. *Scientific Reports*, **2016**, 6, 28525	4.9	128
85	Three-dimensional crossbar arrays of self-rectifying Si/SiO/Si memristors. *Nature Communications*, **2017**, 8, 15666	17.4	115

84	Three-dimensional memristor circuits as complex neural networks. *Nature Electronics*, **2020**, 3, 225-232	28.4	112
83	A Dynamically Reconfigurable Ambipolar Black Phosphorus Memory Device. *ACS Nano*, **2016**, 10, 10428-10435	14.3	72
82	Artificial Neural Network (ANN) to Spiking Neural Network (SNN) Converters Based on Diffusive Memristors. *Advanced Electronic Materials*, **2019**, 5, 1900060	6.4	55
81	Broadband optical properties of graphene and HOPG investigated by spectroscopic Mueller matrix ellipsometry. *Applied Surface Science*, **2018**, 439, 1079-1087	6.7	44
80	Optimal broadband Mueller matrix ellipsometer using multi-waveplates with flexibly oriented axes. *Journal of Optics (United Kingdom)*, **2016**, 18, 025702	1.7	33
79	Mueller matrix imaging ellipsometry for nanostructure metrology. *Optics Express*, **2015**, 23, 17316-29	3.3	32
78	A provable key destruction scheme based on memristive crossbar arrays. *Nature Electronics*, **2018**, 1, 548-554	28.4	32
77	Accurate characterization of nanoimprinted resist patterns using Mueller matrix ellipsometry. *Optics Express*, **2014**, 22, 15165-77	3.3	31
76	Layer-Dependent Dielectric Function of Wafer-Scale 2D MoS2. *Advanced Optical Materials*, **2019**, 7, 1801850	8.0	31
75	Low voltage resistive switching devices based on chemically produced silicon oxide. *Applied Physics Letters*, **2013**, 103, 062104	3.4	28
74	Layer-dependent dielectric and optical properties of centimeter-scale 2D WSe: evolution from a single layer to few layers. *Nanoscale*, **2019**, 11, 22762-22771	7.7	24
73	Superhydrophilic Cu(OH)2 nanowire-based QCM transducer with self-healing ability for humidity detection. *Journal of Materials Chemistry A*, **2019**, 7, 9068-9077	13	23
72	Measurement configuration optimization for accurate grating reconstruction by Mueller matrix polarimetry. *Journal of Micro/ Nanolithography, MEMS, and MOEMS*, **2013**, 12, 033013	0.7	22
71	A Memristor with Low Switching Current and Voltage for 1S1R Integration and Array Operation. *Advanced Electronic Materials*, **2020**, 6, 1901411	6.4	21
70	Complex Optical Conductivity of Two-Dimensional MoS: A Striking Layer Dependency. *Journal of Physical Chemistry Letters*, **2019**, 10, 6246-6252	6.4	20
69	Real-Time Estimation of Time-Varying Bending Modes Using Fiber Bragg Grating Sensor Arrays. *AIAA Journal*, **2013**, 51, 178-185	2.1	20
68	Improved measurement accuracy in optical scatterometry using correction-based library search. *Applied Optics*, **2013**, 52, 6726-34	1.7	20
67	Robust solution to the inverse problem in optical scatterometry. *Optics Express*, **2014**, 22, 22031-42	3.3	18

66	Depolarization artifacts in dual rotating-compensator Mueller matrix ellipsometry. *Journal of Optics (United Kingdom)*, **2016**, 18, 055701	1.7	17
65	Study of the retardance of a birefringent waveplate at tilt incidence by Mueller matrix ellipsometer. *Journal of Optics (United Kingdom)*, **2018**, 20, 015401	1.7	17
64	Mueller matrix ellipsometric detection of profile asymmetry in nanoimprinted grating structures. *Journal of Applied Physics*, **2014**, 116, 194305	2.5	16
63	Effect of voltage polarity and amplitude on electroforming of TiO2 based memristive devices. *Nanoscale*, **2013**, 5, 3257-61	7.7	16
62	Comprehensive characterization of a general composite waveplate by spectroscopic Mueller matrix polarimetry. *Optics Express*, **2018**, 26, 25408-25425	3.3	14
61	Development of a spectroscopic Mueller matrix imaging ellipsometer for nanostructure metrology. *Review of Scientific Instruments*, **2016**, 87, 053707	1.7	13
60	Accurate alignment of optical axes of a biplate using a spectroscopic Mueller matrix ellipsometer. *Applied Optics*, **2016**, 55, 3935-41	0.2	13
59	Single- and bi-layer memristive devices with tunable properties using TiOx switching layers deposited by reactive sputtering. *Applied Physics Letters*, **2014**, 104, 153505	3.4	12
58	Improvement of resistive switching uniformity for TiO2-based memristive devices by introducing a thin HfO2 layer. *Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics*, **2013**, 31, 06FA04	1.3	12
57	Layer-dependent dielectric permittivity of topological insulator Bi2Se3 thin films. *Applied Surface Science*, **2020**, 509, 144822	6.7	12
56	Improved deep-etched multilayer grating reconstruction by considering etching anisotropy and abnormal errors in optical scatterometry. *Optics Letters*, **2015**, 40, 471-4	3	10
55	Nondestructive analysis of lithographic patterns with natural line edge roughness from Mueller matrix ellipsometric data. *Applied Surface Science*, **2016**, 388, 524-530	6.7	9
54	Simulation method for study on outcoupling characteristics of stratified anisotropic OLEDs. *Optics Express*, **2019**, 27, A1014-A1029	3.3	8
53	High-speed Mueller matrix ellipsometer with microsecond temporal resolution. *Optics Express*, **2020**, 28, 10873-10887	3.3	8
52	Complete Dielectric Tensor and Giant Optical Anisotropy in Quasi-One-Dimensional ZrTe5 **2021**, 3, 525-534		8
51	Characterization of dielectric function for metallic thin films based on ellipsometric parameters and reflectivity. *Physica Scripta*, **2019**, 94, 085802	2.6	7
50	Threshold Switching: Threshold Switching of Ag or Cu in Dielectrics: Materials, Mechanism, and Applications (Adv. Funct. Mater. 6/2018). *Advanced Functional Materials*, **2018**, 28, 1870036	15.6	7
49	Large Memristor Crossbars for Analog Computing **2018**,		6

48	Towards understanding the detection of profile asymmetry from Mueller matrix differential decomposition. *Journal of Applied Physics*, **2015**, 118, 225308	2.5	6
47	. *IEEE Transactions on Aerospace and Electronic Systems*, **2014**, 50, 2642-2653	3.7	6
46	A Dynamical Compact Model of Diffusive and Drift Memristors for Neuromorphic Computing. *Advanced Electronic Materials*,2100696	6.4	6
45	An analytical method to determine the complex refractive index of an ultra-thin film by ellipsometry. *Applied Surface Science*, **2020**, 507, 145091	6.7	6
44	Investigation of Spatial Chirp Induced by Misalignments in a Parallel Grating Pair Pulse Stretcher. *Applied Sciences (Switzerland)*, **2020**, 10, 1584	2.6	5
43	Calibration of polarization effect of a high-numerical-aperture objective lens with Mueller matrix polarimetry. *Measurement Science and Technology*, **2019**, 30, 025201	2	5
42	Dynamic characteristics of nematic liquid crystal variable retarders investigated by a high-speed polarimetry. *Journal of Optics (United Kingdom)*, **2019**, 21, 065605	1.7	4
41	Characterization of Volume Gratings Based on Distributed Dielectric Constant Model Using Mueller Matrix Ellipsometry. *Applied Sciences (Switzerland)*, **2019**, 9, 698	2.6	4
40	Performance optimization of tandem organic solar cells at varying incident angles based on optical analysis method. *Optics Express*, **2020**, 28, 2381-2397	3.3	4
39	Complex optical conductivity of Bi2Se3 thin film: Approaching two-dimensional limit. *Applied Physics Letters*, **2021**, 118, 191101	3.4	4
38	Learning with Resistive Switching Neural Networks **2019**,		4
37	Characterization of beam splitters in the calibration of a six-channel Stokes polarimeter. *Journal of Optics (United Kingdom)*, **2018**, 20, 125606	1.7	4
36	Cell-substrate interaction with cell-membrane-stress dependent adhesion. *Journal of Biomechanics*, **2012**, 45, 209-17	2.9	3
35	On the limits of low-numerical-aperture imaging scatterometry. *Optics Express*, **2020**, 28, 8445-8462	3.3	3
34	Wide field-of-view angle linear retarder with an ultra-flat retardance response. *Optics Letters*, **2019**, 44, 3026-3029	3	3
33	Remote Absolute Roll-Angle Measurement in Range of 180° Based on Polarization Modulation. *Nanomanufacturing and Metrology*, **2020**, 3, 228-235	3.4	3
32	Nondestructive investigation on the nanocomposite ordering upon holography using Mueller matrix ellipsometry. *European Polymer Journal*, **2019**, 110, 123-129	5.2	3
31	Thickness dependent native oxidation kinetics observation and prediction for Cu films using spectroscopic ellipsometry. *Applied Surface Science*, **2020**, 518, 146236	6.7	3

30	Scalable 3D Ta:SiOx Memristive Devices. *Advanced Electronic Materials*, **2019**, 5, 1800958	6.4	2
29	Probing optimal measurement configuration for optical scatterometry by the multi-objective genetic algorithm. *Measurement Science and Technology*, **2018**, 29, 045014	2	2
28	Unconventional computing with diffusive memristors **2018**,		2
27	Measurement configuration optimization for dynamic metrology using Stokes polarimetry. *Measurement Science and Technology*, **2018**, 29, 054010	2	2
26	Strain-optical behavior of polyethylene terephthalate film during uniaxial stretching investigated by Mueller matrix ellipsometry. *Polymer*, **2019**, 182, 121842	3.9	2
25	Device engineering and CMOS integration of nanoscale memristors **2014**,		2
24	Force–moment line element method for Stokes flow around a slender body. *Engineering Analysis With Boundary Elements*, **2014**, 44, 120-129	2.6	2
23	Measurement errors induced by axis tilt of biplates in dual-rotating compensator Mueller matrix ellipsometers **2015**,		2
22	Characterization of a liquid crystal variable retarder by Mueller matrix ellipsometry **2019**,		2
21	Multiobjective optimization for target design in diffraction-based overlay metrology. *Applied Optics* , **2020**, 59, 2897-2905	1.7	2
20	Attitude metrology based on the field-of-view effect of birefringence using high-speed polarimetry. *Optics Letters*, **2020**, 45, 2074-2077	3	2
19	2D Niobium-Doped MoS2: Tuning the Exciton Transitions and Potential Applications. *ACS Applied Electronic Materials*, **2021**, 3, 2564-2572	4	2
18	Metrology of Nanostructures by Tomographic Mueller-Matrix Scatterometry. *Applied Sciences (Switzerland)*, **2018**, 8, 2583	2.6	2
17	Dynamic modulation performance of ferroelectric liquid crystal polarization rotators and Mueller matrix polarimeter optimization. *Frontiers of Mechanical Engineering*, **2020**, 15, 256-264	3.3	1
16	Reduced-basis boundary element method for fast electromagnetic field computation. *Journal of the Optical Society of America A: Optics and Image Science, and Vision*, **2017**, 34, 2231-2242	1.8	1
15	Optimal design of wide-view-angle waveplate used for polarimetric diagnosis of lithography system **2016**,		1
14	Improved nanostructure reconstruction by performing data refinement in optical scatterometry. *Journal of Optics (United Kingdom)*, **2016**, 18, 015605	1.7	1
13	Robust overlay metrology with differential Mueller matrix calculus. *Optics Express*, **2017**, 25, 8491-8510	3.3	1

List of Publications

12	Force-moment line element method for flexible slender bodies in Stokes flow. *Physical Review E*, **2013**, 88, 033306	2.4	1
11	Diffraction based single pulse measurement of air ionization dynamics induced by femtosecond laser. *Optics Express*, **2021**, 29, 18601-18610	3.3	1
10	Dependence-Analysis-Based Data-Refinement in Optical Scatterometry for Fast Nanostructure Reconstruction. *Applied Sciences (Switzerland)*, **2019**, 9, 4091	2.6	0
9	Fast and accurate solution of inverse problem in optical scatterometry using heuristic search and robust correction. *Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics* , **2015**, 33, 031807	1.3	0
8	Nonuniform depolarization properties of typical nanostructures and potential applications. *Optics Letters*, **2020**, 45, 1910-1913	3	0
7	Multi-objective collaborative optimization strategy for efficiency and chromaticity of stratified OLEDs based on an optical simulation method and sensitivity analysis. *Optics Express*, **2020**, 28, 27532-27546	3.3	0
6	Reconstruction of finite deep sub-wavelength nanostructures by Mueller-matrix scattered-field microscopy. *Optics Express*, **2021**, 29, 32158-32168	3.3	0
5	Superachromatic polarization modulator for stable and complete polarization measurement over an ultra-wide spectral range.. *Optics Express*, **2022**, 30, 15113-15133	3.3	0
4	Concentric ring structure on the front surface of fused silica induced by a focused femtosecond pulse laser. *Precision Engineering*, **2022**, 74, 242-246	2.9	
3	A Brewster incidence method for shocked dynamic metrology of transparent materials and its error evaluation. *AIP Advances*, **2020**, 10, 105203	1.5	
2	Beam collapse and refractive index changes inside fused silica induced by loosely focused femtosecond laser. *Journal of Optics (United Kingdom)*, **2021**, 23, 075402	1.7	
1	Effective medium approximation based interpretation for Mueller matrix spectra of polydimethylsiloxane gratings. *Journal of Optics (United Kingdom)*, **2021**, 23, 025403	1.7	