

Yeshaiahu Fainman

List of Publications by Year in descending order

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93
papers

3,100
citations

257357

24
h-index

155592

55
g-index

93
all docs

93
docs citations

93
times ranked

3665
citing authors

#	ARTICLE	IF	CITATIONS
1	Lasing action from photonic bound states in continuum. <i>Nature</i> , 2017, 541, 196-199.	13.7	819
2	Nonreciprocal lasing in topological cavities of arbitrary geometries. <i>Science</i> , 2017, 358, 636-640.	6.0	536
3	Cell type specificity of neurovascular coupling in cerebral cortex. <i>ELife</i> , 2016, 5, .	2.8	176
4	Spectral sensitivity of two-dimensional nanohole array surface plasmon polariton resonance sensor. <i>Applied Physics Letters</i> , 2007, 91, .	1.5	164
5	Fourier transform spectrometer on silicon with thermo-optic non-linearity and dispersion correction. <i>Nature Communications</i> , 2018, 9, 665.	5.8	108
6	On-chip microfluidic tuning of an optical microring resonator. <i>Applied Physics Letters</i> , 2006, 88, 111107.	1.5	95
7	Fourier plasmonics: Diffractive focusing of in-plane surface plasmon polariton waves. <i>Applied Physics Letters</i> , 2007, 91, 081101.	1.5	77
8	A microfluidic 2Å–2 optical switch. <i>Applied Physics Letters</i> , 2004, 85, 6119-6121.	1.5	76
9	Photonic quantum Hall effect and multiplexed light sources of large orbital angular momenta. <i>Nature Physics</i> , 2021, 17, 700-703.	6.5	63
10	Near-perfect broadband absorption from hyperbolic metamaterial nanoparticles. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, 1264-1268.	3.3	59
11	Wavelength selective coupler with vertical gratings on silicon chip. <i>Applied Physics Letters</i> , 2008, 92, .	1.5	50
12	Tunable Transmission Resonant Filter and Modulator With Vertical Gratings. <i>Journal of Lightwave Technology</i> , 2007, 25, 1147-1151.	2.7	48
13	Programmable plasmonic phase modulation of free-space wavefronts at gigahertz rates. <i>Nature Photonics</i> , 2019, 13, 431-435.	15.6	48
14	Plasmonic photonic crystal with a complete band gap for surface plasmon polariton waves. <i>Applied Physics Letters</i> , 2008, 93, .	1.5	41
15	On-chip spectrometers using stratified waveguide filters. <i>Nature Communications</i> , 2021, 12, 2704.	5.8	41
16	Excitation and direct imaging of surface plasmon polariton modes in a two-dimensional grating. <i>Applied Physics Letters</i> , 2005, 86, 111110.	1.5	37
17	Optical Bistability in a Silicon Waveguide Distributed Bragg Reflector Fabry–Pérot Resonator. <i>Journal of Lightwave Technology</i> , 2012, 30, 2352-2355.	2.7	37
18	High-Quality, Ultraconformal Aluminum-Doped Zinc Oxide Nanoplasmonic and Hyperbolic Metamaterials. <i>Small</i> , 2016, 12, 892-901.	5.2	37

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19	Third-order nonlinearity in silicon beyond 2350 nm. Applied Physics Letters, 2011, 99, .	1.5	33
20	Wave front evolution of negatively refracted waves in a photonic crystal. Applied Physics Letters, 2007, 90, 041113.	1.5	30
21	Observation of the splitting of degenerate surface plasmon polariton modes in a two-dimensional metallic nanohole array. Applied Physics Letters, 2007, 90, 111103.	1.5	28
22	Photosensitive quantum dot composites and their applications in optical structures. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2005, 23, 2413.	1.6	25
23	Plasmonic tuning of aluminum doped zinc oxide nanostructures by atomic layer deposition. Physica Status Solidi - Rapid Research Letters, 2014, 8, 948-952.	1.2	25
24	Integrated Space-Division Multiplexer for Application to Data Center Networks. IEEE Journal of Selected Topics in Quantum Electronics, 2016, 22, 1-6.	1.9	24
25	Design and Analysis of Blue InGaN/GaN Plasmonic LED for High-Speed, High-Efficiency Optical Communications. ACS Photonics, 2018, 5, 3557-3564.	3.2	22
26	Characterizing the effects of free carriers in fully etched, dielectric-clad silicon waveguides. Applied Physics Letters, 2015, 106, 241104.	1.5	21
27	Mesoscopic Limit Cycles in Coupled Nanolasers. Physical Review Letters, 2020, 124, 213602.	2.9	21
28	On-Chip Digital Fourier-Transform Spectrometer Using a Thermo-Optical Michelson Grating Interferometer. Journal of Lightwave Technology, 2018, 36, 5160-5167.	2.7	19
29	Three-dimensional composite metallodielectric nanostructure for enhanced surface plasmon resonance sensing. Applied Physics Letters, 2009, 94, .	1.5	18
30	Temperature effects in metal-clad semiconductor nanolasers. Nanophotonics, 2015, 4, 26-43.	2.9	18
31	Nanolaser arrays: toward application-driven dense integration. Nanophotonics, 2020, 10, 149-169.	2.9	18
32	Wafer bonded distributed feedback laser with sidewall modulated Bragg gratings. Applied Physics Letters, 2013, 103, .	1.5	17
33	Neurophotonic Tools for Microscopic Measurements and Manipulation: Status Report. Neurophotonics, 2022, 9, 013001.	1.7	17
34	Modified long-range surface plasmon polariton modes for laser nanoresonators. Journal of Applied Physics, 2011, 110, 063106.	1.1	16
35	Response to Comment on "Nonreciprocal Light Propagation in a Silicon Photonic Circuit" Science, 2012, 335, 38-38.	6.0	16
36	Machine learning for composition analysis of ssDNA using chemical enhancement in SERS. Biomedical Optics Express, 2020, 11, 5092.	1.5	16

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37	Simulated Raman correlation spectroscopy for quantifying nucleic acid-silver composites. Scientific Reports, 2016, 6, 23535.	1.6	15
38	Integrated Silicon Fourier Transform Spectrometer with Broad Bandwidth and Ultra-High Resolution. Laser and Photonics Reviews, 2021, 15, 2000358.	4.4	13
39	Photonic Bandgap Microcavities With Flat-Top Response. IEEE Journal of Selected Topics in Quantum Electronics, 2007, 13, 262-269.	1.9	12
40	Directing Data Center Traffic. Science, 2013, 342, 202-203.	6.0	12
41	Passive Temperature Stabilization of Silicon Photonic Devices Using Liquid Crystals. Materials, 2014, 7, 2229-2241.	1.3	11
42	Subnanometer imaging and controlled dynamical patterning of thermocapillary driven deformation of thin liquid films. Light: Science and Applications, 2019, 8, 77.	7.7	11
43	Constriction Resistance and Current Crowding in Electrically Pumped Semiconductor Nanolasers with the Presence of Undercut and Sidewall Tilt. IEEE Journal of Quantum Electronics, 2016, 52, 1-7.	1.0	10
44	Characterization of waveguide loss using distributed Bragg reflectors. Applied Physics B: Lasers and Optics, 2014, 114, 467-474.	1.1	9
45	Channel dispersed Fourier transform spectrometer. Communications Physics, 2018, 1, .	2.0	9
46	Effect of Undercut Etch on Performance and Fabrication Robustness of Metal-Clad Semiconductor Nanolasers. IEEE Journal of Quantum Electronics, 2015, 51, 1-9.	1.0	8
47	Metallic coaxial nanolasers. Advances in Physics: X, 2016, 1, 262-275.	1.5	8
48	Electronic Metamaterials with Tunable Second-order Optical Nonlinearities. Scientific Reports, 2017, 7, 9983.	1.6	8
49	Nonlocal and Nonlinear Surface Plasmon Polaritons and Optical Spatial Solitons Induced by the Thermocapillary Effect. Physical Review Letters, 2018, 120, 243904.	2.9	8
50	On the observation of dispersion in tunable second-order nonlinearities of silicon-rich nitride thin films. APL Photonics, 2019, 4, 036101.	3.0	8
51	Effects of High- η on Phase-Locking Stability and Tunability in Laterally Coupled Lasers. IEEE Journal of Selected Topics in Quantum Electronics, 2022, 28, 1-12.	1.9	8
52	Tip-Enhanced Raman Spectroscopy Studies on Amorphous Carbon Films and Carbon Overcoats in Commercial Hard Disk Drives. Tribology Letters, 2018, 66, 1.	1.2	7
53	Characterization of Distributed Bragg Reflectors. IEEE Journal of Quantum Electronics, 2014, 50, 453-457.	1.0	6
54	A Non-Mechanical Multi-Wavelength Integrated Photonic Beam Steering System. Journal of Lightwave Technology, 2021, 39, 4201-4208.	2.7	6

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55	Design and analysis of a narrowband filter for optical platform. , 2011, , .		5
56	Self-reference and random sampling approach for label-free identification of DNA composition using plasmonic nanomaterials. Scientific Reports, 2018, 8, 7398.	1.6	5
57	Synthesis of second-order nonlinearities in dielectric-semiconductor-dielectric metamaterials. Applied Physics Letters, 2017, 110, .	1.5	4
58	Low Resistance Tunnel Junctions for Efficient Electrically Pumped Nanolasers. IEEE Journal of Selected Topics in Quantum Electronics, 2017, 23, 1-6.	1.9	4
59	Microwave signal switching on a silicon photonic chip. Scientific Reports, 2019, 9, 11166.	1.6	4
60	Detection of optical activity with diode-integrated hyperbolic metasurfaces. Biomedical Optics Express, 2017, 8, 5594.	1.5	3
61	The effect of DNA bases permutation on surface-enhanced Raman scattering spectrum. Nanophotonics, 2021, 10, 1581-1593.	2.9	3
62	Element-wise uniqueness, prior knowledge, and data-dependent resolution. Signal, Image and Video Processing, 2017, 11, 41-48.	1.7	2
63	On-chip microfluidic tuning of an microring resonator. , 2006, , .		1
64	Optofluidic 1×4 switch. , 2008, , .		1
65	MANIPULATION OF PLASMONICS FROM NANO TO MICRO SCALE. World Scientific Series in Nanoscience and Nanotechnology, 2011, , 285-303.	0.1	1
66	III-V/Si distributed feedback laser with sidewall modulated grating. , 2012, , .		1
67	Electrically pumped metallo-dielectric pedestal nanolasers. , 2013, , .		1
68	Negative Index Metamaterials with Deeply Subwavelength Structural Dimensions from Near Infrared to Visible Based on Thin Films ² . Materials Research Society Symposia Proceedings, 2006, 964, 1.	0.1	0
69	Experimental measurements of receiver design effect on sequence estimation performance. , 2006, , .		0
70	Nearfield investigation of subwavelength structured graded-index lens. , 2006, , .		0
71	Devices Utilizing Free-space Optics on a Chip. , 2006, , .		0
72	Exact Optimization-Based Analysis Method Applied to Nonlinear Processes in a Multi-Cavity Micro-Resonator. , 2007, , .		0

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73	Fabrication techniques for long range surface plasmon waveguides. Conference Proceedings - Lasers and Electro-Optics Society Annual Meeting-LEOS, 2007, , .	0.0	0
74	Optimization-Based Analysis of Modulation Instability in Resonant Cavities. IEEE Photonics Technology Letters, 2008, 20, 258-260.	1.3	0
75	Reconfigurable large area metallic nanohole array and its application in bio-sensing. , 2008, , .		0
76	Nanoscale optical field localization by resonantly focused plasmons. , 2008, , .		0
77	Planar dielectric cavity for biochemical sensing. , 2009, , .		0
78	Controlled placement of spherical nanoparticles into array for biosensing. , 2010, , .		0
79	Nonreciprocal light propagation on an integrated silicon photonic chip. , 2011, , .		0
80	Nanofluidic Chips: Real-Time Template-Assisted Manipulation of Nanoparticles in a Multilayer Nanofluidic Chip (Small 19/2011). Small, 2011, 7, 2678-2678.	5.2	0
81	Near-Field measurement of amplitude and phase in silicon waveguides with liquid cladding. , 2011, , .		0
82	Benefits of differential detection for nanoplasmonics. , 2011, , .		0
83	Stochastic Model on the Post-Fabrication Error for a Bragg Reflectors Based Photonic Allpass Filter. , 2011, , .		0
84	Electrokinetic control and formation of nanoparticle array in a multilayer, nanofluidic device. , 2011, , .		0
85	Design of compact IIIV/Si distributed feedback lasers. , 2013, , .		0
86	Nanophotonics technology and applications. , 2013, , .		0
87	Optical tuning of nematic liquid crystal claddings for chip scale photonic circuits. , 2013, , .		0
88	Electrically pumped metallo-dielectric pedestal nanolasers with high thermal-conductivity shield. , 2014, , .		0
89	Nanoscale engineering optical nonlinearities and nanolasers. , 2014, , .		0
90	Nanoscale engineering optical nonlinearities and nanolasers. , 2014, , .		0

#	ARTICLE	IF	CITATIONS
91	Free carrier effects as a complicating variable in the analysis of strained silicon. , 2015, , .		0
92	Nanophotonic Devices and Circuits for Communications. , 2016, , .		0
93	Non-reciprocal lasing action in topological cavities of arbitrary geometries. , 2019, , .		0