

# Eli Yablonovitch

## List of Publications by Year in descending order

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76  
papers

8,157  
citations

185998

28  
h-index

276539

41  
g-index

76  
all docs

76  
docs citations

76  
times ranked

11657  
citing authors

#	ARTICLE	IF	CITATIONS
1	Statistical ray optics. Journal of the Optical Society of America, 1982, 72, 899.	1.2	1,000
2	Near-unity photoluminescence quantum yield in MoS <sub>2</sub> . Science, 2015, 350, 1065-1068.	6.0	993
3	Strong interlayer coupling in van der Waals heterostructures built from single-layer chalcogenides. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 6198-6202.	3.3	970
4	Strong Internal and External Luminescence as Solar Cells Approach the Shockley-Queisser Limit. IEEE Journal of Photovoltaics, 2012, 2, 303-311.	1.5	826
5	Extreme selectivity in the lift-off of epitaxial GaAs films. Applied Physics Letters, 1987, 51, 2222-2224.	1.5	772
6	Electron-spin-resonance transistors for quantum computing in silicon-germanium heterostructures. Physical Review A, 2000, 62, .	1.0	733
7	Adjoint shape optimization applied to electromagnetic design. Optics Express, 2013, 21, 21693.	1.7	477
8	Short-channel field-effect transistors with 9-atom and 13-atom wide graphene nanoribbons. Nature Communications, 2017, 8, 633.	5.8	312
9	High Photoluminescence Quantum Yield in Band Gap Tunable Bromide Containing Mixed Halide Perovskites. Nano Letters, 2016, 16, 800-806.	4.5	269
10	Electrical suppression of all nonradiative recombination pathways in monolayer semiconductors. Science, 2019, 364, 468-471.	6.0	243
11	Fundamental Efficiency Limit of Lead Iodide Perovskite Solar Cells. Journal of Physical Chemistry Letters, 2018, 9, 1703-1711.	2.1	203
12	Ultraefficient thermophotovoltaic power conversion by band-edge spectral filtering. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 15356-15361.	3.3	150
13	High Luminescence Efficiency in MoS <sub>2</sub> Grown by Chemical Vapor Deposition. ACS Nano, 2016, 10, 6535-6541.	7.3	140
14	Optical antenna enhanced spontaneous emission. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 1704-1709.	3.3	135
15	Inverse design of near unity efficiency perfectly vertical grating couplers. Optics Express, 2018, 26, 4766.	1.7	134
16	Roadmap on optical energy conversion. Journal of Optics (United Kingdom), 2016, 18, 073004.	1.0	85
17	Liquid versus photonic crystals. Nature, 1999, 401, 539-541.	13.7	84
18	Lead halides join the top optoelectronic league. Science, 2016, 351, 1401-1401.	6.0	56

#	ARTICLE	IF	CITATIONS
19	Engineering the Electronâ€Hole Bilayer Tunneling Field-Effect Transistor. IEEE Transactions on Electron Devices, 2014, 61, 1599-1606.	1.6	51
20	High-performance near-field electroluminescent refrigeration device consisting of a GaAs light emitting diode and a Si photovoltaic cell. Journal of Applied Physics, 2017, 122, .	1.1	49
21	Leveraging continuous material averaging for inverse electromagnetic design. Optics Express, 2018, 26, 31717.	1.7	45
22	Controlling the Spontaneous Precipitation of Silver Nanoparticles in Sol-Gel Materials. Journal of Sol-Gel Science and Technology, 2000, 19, 249-252.	1.1	41
23	Device Architectures for Enhanced Photon Recycling in Thinâ€Film Multijunction Solar Cells. Advanced Energy Materials, 2015, 5, 1400919.	10.2	41
24	Electroluminescent refrigeration by ultra-efficient GaAs light-emitting diodes. Journal of Applied Physics, 2018, 123, 173104.	1.1	41
25	The Voltage Boost Enabled by Luminescence Extraction in Solar Cells. IEEE Journal of Photovoltaics, 2016, 6, 801-809.	1.5	35
26	Physics successfully implements Lagrange multiplier optimization. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 26639-26650.	3.3	35
27	Impact of Quantization Energy and Gate Leakage in Bilayer Tunneling Transistors. IEEE Electron Device Letters, 2013, 34, 298-300.	2.2	32
28	Lowering HAMR Near-Field Transducer Temperature via Inverse Electromagnetic Design. IEEE Transactions on Magnetics, 2015, 51, 1-7.	1.2	32
29	Tunneling Nanoelectromechanical Switches Based on Compressible Molecular Thin Films. ACS Nano, 2015, 9, 7886-7894.	7.3	22
30	Hierarchical Design and Optimization of Silicon Photonics. IEEE Journal of Selected Topics in Quantum Electronics, 2020, 26, 1-12.	1.9	21
31	Auger generation as an intrinsic limit to tunneling field-effect transistor performance. Journal of Applied Physics, 2016, 120, 084507.	1.1	19
32	Ultrafast Spontaneous Emission from a Slot-Antenna Coupled WSe <sub>2</sub> Monolayer. ACS Photonics, 2018, 5, 2701-2705.	3.2	17
33	Nanomechanical Switch Designs to Overcome the Surface Adhesion Energy Limit. IEEE Electron Device Letters, 2015, 36, 963-965.	2.2	15
34	Thermodynamics of Light Management in Near-Field Thermophotovoltaics. Physical Review Applied, 2021, 16, .	1.5	13
35	Measurement of the temporal delay of a light pulse through a one-dimensional photonic crystal. Microwave and Optical Technology Letters, 1999, 20, 17-21.	0.9	7
36	Large spontaneous emission rate enhancement from an electrically-injected nanoLED coupled to an optical antenna. , 2015, , .		7

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37	Tunnel-FET Switching Is Governed by Non-Lorentzian Spectral Line Shape. Proceedings of the IEEE, 2020, 108, 1235-1244.	16.4	7
38	Light, the universe and everything – 12 Herculean tasks for quantum cowboys and black diamond skiers. Journal of Modern Optics, 2018, 65, 1261-1308.	0.6	6
39	Spin-orbit torque rectifier for weak RF energy harvesting. Applied Physics Letters, 2021, 118, .	1.5	5
40	Electrically injected nanoLED with enhanced spontaneous emission from a cavity backed optical slot antenna. , 2014, , .		4
41	Metal optics, optical antennas, and spontaneous hyper-emission. , 2010, , .		3
42	Impact of interface defects on tunneling FET turn-on steepness. , 2015, , .		3
43	Toward 100 GHz direct modulation rate of antenna coupled nanoLED. , 2016, , .		3
44	Accurate calibration of thermophotovoltaic efficiency. Photonix, 2020, 1, .	5.5	3
45	Practical challenges towards 50% efficient thermophotovoltaic energy conversion. , 2019, , .		3
46	Optical antenna based nanoLED. , 2011, , .		2
47	Spontaneous emission rate enhancement using gold nanorods. , 2012, , .		2
48	Enhancement of photon emission rate in antenna-coupled nanoLEDs. , 2012, , .		2
49	Sub-50 $\mu$ m/s surface recombination velocity in InGaAsP/InP ridges. Applied Physics Letters, 2021, 119, 191102.	1.5	2
50	Novel CMOS compatible cavity enhanced Ge/SOI photo-detector based on secondary photoconductivity. , 2006, , .		1
51	Demonstration of Uncoordinated Multiple Access in Optical Communications. IEEE Transactions on Circuits and Systems I: Regular Papers, 2008, 55, 3259-3269.	3.5	1
52	Efficient and broadband single-mode waveguide coupling of electrically injected optical antenna based nanoled. , 2017, , .		1
53	Efficient single-mode waveguide coupling of electrically injected optical antenna based nanoLED. , 2017, , .		1
54	Controlling surface recombination in a nanoscale III-V light emitting diode. , 2017, , .		1

#	ARTICLE	IF	CITATIONS
55	Nanoscale III-V Light Emitting Diode with Antenna-Enhanced 250 Picosecond Spontaneous Emission Lifetime. , 2018, , .		1
56	Practical efficiency limits of electroluminescent cooling. , 2019, , .		1
57	Optically pumped Silicon laser based on evanescent coupling of Si micro-disk to III&#x2013;V DBR stack. , 2006, , .		0
58	Germanium-on-SOI photo-detector based on an FET structure. , 2007, , .		0
59	Evaluation of a plasmon nano-cavity laser employing CdSe as the gain material. , 2008, , .		0
60	High brightness InP micropillars grown on silicon with Fermi-level splits larger than 1 eV. , 2013, , .		0
61	Spontaneous emission faster than stimulated emission. , 2013, , .		0
62	Waveguide-integrated optical antenna nanoLEDs for on-chip communication. , 2013, , .		0
63	Optical slot antennas for enhancement of $WSe_2$ spontaneous emission rate. , 2015, , .		0
64	Tunneling nanoelectromechanical switches. , 2015, , .		0
65	Low capacitance, high speed phototransistors with a large absorption region. , 2015, , .		0
66	Optical antenna-enhanced nano-LED for energy efficient optical interconnect. , 2015, , .		0
67	Solar Cells: Device Architectures for Enhanced Photon Recycling in Thin-Film Multijunction Solar Cells (Adv. Energy Mater. 1/2015). Advanced Energy Materials, 2015, 5, n/a-n/a.	10.2	0
68	High density multilayer optical circuit board for unprecedented connectivity at board scales. , 2016, , .		0
69	Metallodielectric antenna for spontaneous emission enhancement. , 2017, , .		0
70	On the broadening of energy levels in a quantum dot-based tunnel transistor. , 2017, , .		0
71	Response to "Comment on "High-performance near-field electroluminescent refrigeration device consisting of a GaAs light emitting diode and a Si photovoltaic cell" [J. Appl. Phys. 122, 143104 (2017)]. Journal of Applied Physics, 2018, 123, 116102.	1.1	0
72	Fundamental Efficiency Limit of Lead Iodide Perovskite Solar Cells. , 0, , .		0

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73	Ultra-high luminescence efficiency as a technology enabler: solar cells, thermophotovoltaics, and optoelectronic refrigerators. , 2018, , .		0
74	New Pre-Requisites for Steep Sub-Threshold Tunnel Transistors. , 2019, , .		0
75	Fundamental Efficiency Limit of Lead Iodide Perovskite Solar Cells. , 0, , .		0
76	Reaching 28% Efficiency in Thermo-Photovoltaics. , 0, , .		0