Eric Mazur

List of Publications by Year
in descending order

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90 papers	9,803 citations	109321 35 h-index	71685 76 g-index
93 all docs	93 docs citations	93 times ranked	8499 citing authors

#	Article	IF	Citations
1	Femtosecond laser micromachining in transparent materials. Nature Photonics, 2008, 2, 219-225.	31.4	2,601
2	Peer Instruction: Ten years of experience and results. American Journal of Physics, 2001, 69, 970-977.	0.7	1,666
3	Microstructuring of silicon with femtosecond laser pulses. Applied Physics Letters, 1998, 73, 1673-1675.	3.3	742
4	Farewell, Lecture?. Science, 2009, 323, 50-51.	12.6	392
5	On-chip zero-index metamaterials. Nature Photonics, 2015, 9, 738-742.	31.4	327
6	Reducing the gender gap in the physics classroom. American Journal of Physics, 2006, 74, 118-122.	0.7	293
7	Peer Instruction: Results from a Range of Classrooms. Physics Teacher, 2002, 40, 206-209.	0.3	267
8	Microstructured silicon photodetector. Applied Physics Letters, 2006, 89, 033506.	3.3	251
9	3D Cellâ€Migration Studies using Twoâ€Photon Engineered Polymer Scaffolds. Advanced Materials, 2008, 20, 4494-4498.	21.0	222
10	An Analytic Model for the Dielectric Function of Au, Ag, and their Alloys. Advanced Optical Materials, 2014, 2, 176-182.	7.3	218
11	Classroom demonstrations: Learning tools or entertainment?. American Journal of Physics, 2004, 72, 835-838.	0.7	182
12	Morphology of femtosecond laser-induced structural changes in bulk transparent materials. Applied Physics Letters, 2004, 84, 1441-1443.	3.3	163
13	High-Density Regular Arrays of Nanometer-Scale Rods Formed on Silicon Surfaces via Femtosecond Laser Irradiation in Water. Nano Letters, 2008, 8, 2087-2091.	9.1	157
14	Pulsed-laser hyperdoping and surface texturing for photovoltaics. MRS Bulletin, 2011, 36, 439-445.	3.5	150
15	Morphology of femtosecond-laser-ablated borosilicate glass surfaces. Applied Physics Letters, 2003, 83, 3030-3032.	3.3	115
16	Supercontinuum generation in submicrometer diameter silica fibers. Optics Express, 2006, 14, 9408.	3.4	101
17	Bioinspired micrograting arrays mimicking the reverse color diffraction elements evolved by the butterfly Pierella luna. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 15630-15634.	7.1	89
18	The role of diffusion in broadband infrared absorption inÂchalcogen-doped silicon. Applied Physics A: Materials Science and Processing, 2009, 96, 327-334.	2.3	85

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19	Pressure-induced phase transformations during femtosecond-laser doping of silicon. Journal of Applied Physics, 2011, 110, .	2.5	79
20	Intracellular Delivery Using Nanosecond-Laser Excitation of Large-Area Plasmonic Substrates. ACS Nano, 2017, 11, 3671-3680.	14.6	63
21	Response switching and self-efficacy in Peer Instruction classrooms. Physical Review Physics Education Research, 2015, 11, .	1.7	61
22	The origins of pressure-induced phase transformations during the surface texturing of silicon using femtosecond laser irradiation. Journal of Applied Physics, 2012, 112, .	2.5	59
23	Fabrication of disconnected threeâ€dimensional silver nanostructures in a polymer matrix. Applied Physics Letters, 2012, 100, 063120.	3.3	51
24	Dirac-like cone-based electromagnetic zero-index metamaterials. Light: Science and Applications, 2021, 10, 203.	16.6	50
25	Reactivation of sub-bandgap absorption in chalcogen-hyperdoped silicon. Applied Physics Letters, 2011, 98, .	3.3	49
26	Controlled architectural and chemotactic studies of 3D cell migration. Biomaterials, 2011, 32, 2634-2641.	11.4	49
27	Industrial applications of ultrafast laser processing. MRS Bulletin, 2016, 41, 984-992.	3.5	45
28	Role of physics lecture demonstrations in conceptual learning. Physical Review Physics Education Research, 2013, 9, .	1.7	44
29	Direct Observation of Phase-Free Propagation in a Silicon Waveguide. ACS Photonics, 2017, 4, 2385-2389.	6.6	42
30	Ultrafast laser processing of silicon for photovoltaics. International Materials Reviews, 2018, 63, 227-240.	19.3	42
31	Modeling the optical properties of twisted bilayer photonic crystals. Light: Science and Applications, 2021, 10, 157.	16.6	42
32	Manipulating the flow of light using Dirac-cone zero-index metamaterials. Reports on Progress in Physics, 2019, 82, 012001.	20.1	41
33	Formation of nanostructured TiO2 by femtosecond laser irradiation of titanium in O2. Journal of Applied Physics, 2012, 112, .	2.5	40
34	Novel DLK-independent neuronal regeneration in Caenorhabditis elegans shares links with activity-dependent ectopic outgrowth. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E2852-60.	7.1	37
35	Ultra-low-loss on-chip zero-index materials. Light: Science and Applications, 2021, 10, 10.	16.6	37
36	Peer Instruction in introductory physics: A method to bring about positive changes in studentsâ€™ attitudes and beliefs. Physical Review Physics Education Research, 2017, 13, .	2.9	37

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37	Femtosecond laser ablation of neurons in C. elegans for behavioral studies. Applied Physics A: Materials Science and Processing, 2009, 96, 335-341.	2.3	36
38	The effects of a thin film dopant precursor on the structure and properties of femtosecond-laser irradiated silicon. Applied Physics A: Materials Science and Processing, 2011, 105, 795-800.	2.3	36
39	Low-Loss Zero-Index Materials. Nano Letters, 2021, 21, 914-920.	9.1	36
40	Reducing the gender gap in studentsâ€™ physics self-efficacy in a team- and project-based introductory physics class. Physical Review Physics Education Research, 2019, 15, .	2.9	36
41	Studying femtosecond-laser hyperdoping by controlling surface morphology. Journal of Applied Physics, 2012, 111, 093511.	2.5	35
42	On-chip all-dielectric fabrication-tolerant zero-index metamaterials. Optics Express, 2017, 25, 8326.	3.4	33
43	Fundamental Radiative Processes in Near-Zero-Index Media of Various Dimensionalities. ACS Photonics, 2020, 7, 1965-1970.	6.6	32
44	Monolithic CMOS-compatible zero-index metamaterials. Optics Express, 2017, 25, 12381.	3.4	30
45	Analysis of student engagement in an online annotation system in the context of a flipped introductory physics class. Physical Review Physics Education Research, 2016, 12, .	2.9	30
46	Improving dopant incorporation during femtosecond-laser doping of Si with a Se thin-film dopant precursor. Applied Physics A: Materials Science and Processing, 2014, 114, 1009-1016.	2.3	27
47	Plasmonic Tipless Pyramid Arrays for Cell Poration. Nano Letters, 2015, 15, 4461-4466.	9.1	23
48	Topology-optimized dual-polarization Dirac cones. Physical Review B, 2018, 97, .	3.2	23
49	Conceptual question response times in Peer Instruction classrooms. Physical Review Physics Education Research, 2014, 10, .	1.7	19
50	Making sense of confusion: Relating performance, confidence, and self-efficacy to expressions of confusion in an introductory physics class. Physical Review Physics Education Research, 2015, 11, .	1.7	19
51	Creating femtosecond-laser-hyperdoped silicon with a homogeneous doping profile. Applied Physics Letters, 2015, 106, .	3.3	19
52	Light Spread Manipulation in Scintillators Using Laser Induced Optical Barriers. IEEE Transactions on Nuclear Science, 2018, 65, 2208-2215.	2.0	18
53	Nearâ€Zero Index Photonic Crystals with Directive Bound States in the Continuum. Laser and Photonics Reviews, 2021, 15, 2000559.	8.7	18
54	Analysis of poration-induced changes in cells from laser-activated plasmonic substrates. Biomedical Optics Express, 2017, 8, 4756.	2.9	16

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55	A Laserâ€Processed Silicon Solar Cell with Photovoltaic Efficiency in the Infrared. Physica Status Solidi (A) Applications and Materials Science, 2021, 218, 2000550.	1.8	15
56	Laser-Activated Self-Assembled Thermoplasmonic Nanocavity Substrates for Intracellular Delivery. ACS Applied Bio Materials, 2018, 1, 1793-1799.	4.6	13
57	Extended many-body superradiance in diamond epsilon near-zero metamaterials. Applied Physics Letters, 2022, 120, .	3.3	12
58	Momentum considerations inside near-zero index materials. Light: Science and Applications, 2022, 11, 110.	16.6	11
59	Relaxed Phase-Matching Constraints in Zero-Index Waveguides. Physical Review Letters, 2022, 128, .	7.8	11
60	A comparison of inverted and upright laser-activated titanium nitride micropyramids for intracellular delivery. Scientific Reports, 2018, 8, 15595.	3.3	10
61	Two steps forward, one step back. Nature Physics, 2014, 10, 402-403.	16.7	9
62	Dynamics of transient microbubbles generated by fs-laser irradiation of plasmonic micropyramids. Applied Physics Letters, 2017, 110, .	3.3	8
63	Computerâ€controlled Raman spectrometer for timeâ€resolved measurements in lowâ€pressure gaseous samples. Review of Scientific Instruments, 1986, 57, 2507-2511.	1.3	7
64	A Model of Titan-like Chemistry to Connect Experiments and Cassini Observations. Astrophysical Journal, 2018, 853, 107.	4.5	7
65	Chalcogen-hyperdoped germanium for short-wavelength infrared photodetection. AIP Advances, 2020, 10, .	1.3	7
66	Homework as a metacognitive tool in an undergraduate physics course. Physical Review Physics Education Research, 2019, 15, .	2.9	7
67	Miniature cavity for in situ millimeter wave gas sensing: N2O and CH3OH detection. Sensors and Actuators B: Chemical, 2018, 254, 763-770.	7.8	6
68	Optically Induced Molecular Logic Operations. ACS Nano, 2020, 14, 15248-15255.	14.6	6
69	Light trapping for thin silicon solar cells by femtosecond laser texturing. , 2012, , .		5
70	Lossless Integrated Dirac-Cone Metamaterials. , 2016, , .		5
71	Scintillator-based Photon Counting Detector: Is it feasible?. , 2016, , .		5
72	Carrier Dynamics and Absorption Properties of Gold-Hyperdoped Germanium: Insight Into Tailoring Defect Energetics. Physical Review Applied, 2021, 15, .	3.8	3

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73	Low Index Asymmetric Bound States in the Continuum for Low Loss Integrated Photonics. , 2020, , .		3
74	Detecting Laser-Volatilized Salts with a Miniature 100-GHz Spectrometer. Journal of Physical Chemistry A, 2020, 124, 1429-1436.	2.5	2
75	Exclusively visual analysis of classroom group interactions. Physical Review Physics Education Research, 2016, 12, .	2.9	2
76	Intracellular Cargo Delivery Induced by Irradiating Polymer Substrates with Nanosecond-Pulsed Lasers. ACS Biomaterials Science and Engineering, 2021, 7, 5129-5134.	5.2	2
77	Rejection of stochastic background noise in lowâ€level pulsed light scattering experiments. Review of Scientific Instruments, 1993, 64, 2550-2551.	1.3	1
78	Strongly Extended Superradiance in Diamond Metamaterials. , 2017, , .		1
79	Imaging Nanosecond Ablation of Copper at Low Ambient Pressure. , 2017, , .		1
80	Laser-Irradiated Nanostructures forIntracellular Delivery. NATO Science for Peace and Security Series B: Physics and Biophysics, 2022, , 283-285.	0.3	1
81	Coherent antiâ€Stokes Raman spectroscopy of infrared multiphoton excited molecules. Journal of Chemical Physics, 1994, 101, 8517-8528.	3.0	0
82	The great thermometer challenge. Physics Teacher, 2000, 38, 235-235.	0.3	0
83	Electronic characterization of silicon doped beyond the solubility limit via femtosecond laser irradiation. , 2008, , .		0
84	Applications of femtosecond lasers in materials processing. , 2009, , .		0
85	Greetings from General Co-Chairs. , 2011, , .		0
86	TAPER-DRAWING FABRICATION OF GLASS NANOWIRES. , 2008, , 213-234.		0
87	Laser-Induced Periodic Surface Structures in GaP. , 2018, , .		0
88	Integrated Zero-Index Metamaterials and Waveguides. , 2018, , .		0
89	Omni-directional phase matching in integrated zero-index media. , 2020, , .		0
90	Carrier Lifetime of Au-Hyperdoped Ge using Terahertz Spectroscopy. , 2020, , .		0