Matt Law

List of Publications by Year
in descending order

72	21,585	66315 42	95218 68
papers	citations	h-index	g-index

74	74	74	20581
all docs	docs citations	times ranked	citing authors

#	ARTICLE	IF	CITATIONS
1	Nanowire dye-sensitized solar cells. Nature Materials, 2005, 4, 455-459.	13.3	5,232
2	Low-Temperature Wafer-Scale Production of ZnO Nanowire Arrays. Angewandte Chemie - International Edition, 2003, 42, 3031-3034.	7.2	1,562
3	General Route to Vertical ZnO Nanowire Arrays Using Textured ZnO Seeds. Nano Letters, 2005, 5, 1231-1236.	4.5	1,382
4	SEMICONDUCTOR NANOWIRES AND NANOTUBES. Annual Review of Materials Research, 2004, 34, 83-122.	4.3	1,304
5	Semiconductor Quantum Dots and Quantum Dot Arrays and Applications of Multiple Exciton Generation to Third-Generation Photovoltaic Solar Cells. Chemical Reviews, 2010, 110, 6873-6890.	23.0	1,118
6	Schottky Solar Cells Based on Colloidal Nanocrystal Films. Nano Letters, 2008, 8, 3488-3492.	4.5	882
7	Nanoribbon Waveguides for Subwavelength Photonics Integration. Science, 2004, 305, 1269-1273.	6.0	879
8	Photochemical Sensing of NO2 with SnO2 Nanoribbon Nanosensors at Room Temperature This work was supported by the Camille and Henry Dreyfus Foundation, 3M Corporation, the National Science Foundation, and the University of California, Berkeley. P.Y. is an Alfred P. Sloan Research Fellow. Work at the Lawrence Berkeley National Laboratory was supported by the Office of Science, Basic Energy Sciences, Division of Materials Science of the US Department of Energy. We thank the National Center for Electron Microsc. Angewandte Chemie - International Edition, 2002, 41, 2405.	7.2	785
9	Structural, Optical, and Electrical Properties of Self-Assembled Films of PbSe Nanocrystals Treated with 1,2-Ethanedithiol. ACS Nano, 2008, 2, 271-280.	7.3	693
10	ZnOâˆ’Al2O3and ZnOâˆ’TiO2Coreâˆ’Shell Nanowire Dye-Sensitized Solar Cells. Journal of Physical Chemistry B, 2006, 110, 22652-22663.	1.2	686
11	Solution-Grown Zinc Oxide Nanowires. Inorganic Chemistry, 2006, 45, 7535-7543.	1.9	647
12	Dependence of Carrier Mobility on Nanocrystal Size and Ligand Length in PbSe Nanocrystal Solids. Nano Letters, 2010, 10, 1960-1969.	4.5	645
13	ZnO Nanowire Transistors. Journal of Physical Chemistry B, 2005, 109, 9-14.	1.2	561
14	ZnOâˆ’TiO₂ Coreâˆ’Shell Nanorod/P3HT Solar Cells. Journal of Physical Chemistry C, 2007, 111, 18451-18456.	1.5	433
15	Structural, Optical, and Electrical Properties of PbSe Nanocrystal Solids Treated Thermally or with Simple Amines. Journal of the American Chemical Society, 2008, 130, 5974-5985.	6.6	407
16	Colloidal Iron Pyrite (FeS₂) Nanocrystal Inks for Thin-Film Photovoltaics. Journal of the American Chemical Society, 2011, 133, 716-719.	6.6	328
17	Ultrafast Carrier Dynamics in Single ZnO Nanowire and Nanoribbon Lasers. Nano Letters, 2004, 4, 197-204.	4.5	319
18	Semiconductor Nanowires for Subwavelength Photonics Integration. Journal of Physical Chemistry B, 2005, 109, 15190-15213.	1.2	276

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19	p-Type PbSe and PbS Quantum Dot Solids Prepared with Short-Chain Acids and Diacids. ACS Nano, 2010, 4, 2475-2485.	7.3	242
20	Multiple Exciton Generation in Films of Electronically Coupled PbSe Quantum Dots. Nano Letters, 2007, 7, 1779-1784.	4.5	230
21	PbSe Quantum Dot Field-Effect Transistors with Air-Stable Electron Mobilities above 7 cm² V^{â€“1} s^{â€“1}. Nano Letters, 2013, 13, 1578-1587.	4.5	228
22	Optical routing and sensing with nanowire assemblies. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 7800-7805.	3.3	224
23	ZnO Nanoribbon Microcavity Lasers. Advanced Materials, 2003, 15, 1907-1911.	11.1	220
24	Variations in the Quantum Efficiency of Multiple Exciton Generation for a Series of Chemically Treated PbSe Nanocrystal Films. Nano Letters, 2009, 9, 836-845.	4.5	219
25	Determining the Internal Quantum Efficiency of PbSe Nanocrystal Solar Cells with the Aid of an Optical Model. Nano Letters, 2008, 8, 3904-3910.	4.5	166
26	Atmosphericâ€Pressure Chemical Vapor Deposition of Iron Pyrite Thin Films. Advanced Energy Materials, 2012, 2, 1124-1135.	10.2	147
27	Robust, Functional Nanocrystal Solids by Infilling with Atomic Layer Deposition. Nano Letters, 2011, 11, 5349-5355.	4.5	142
28	Iron Pyrite Thin Films Synthesized from an Fe(acac)₃ Ink. Journal of the American Chemical Society, 2013, 135, 4412-4424.	6.6	140
29	Textured nanoporous Mo:BiVO₄ photoanodes with high charge transport and charge transfer quantum efficiencies for oxygen evolution. Energy and Environmental Science, 2016, 9, 1412-1429.	15.6	135
30	The Photothermal Stability of PbS Quantum Dot Solids. ACS Nano, 2011, 5, 8175-8186.	7.3	130
31	Low-Temperature Wafer-Scale Production of ZnO Nanowire Arrays. Angewandte Chemie, 2003, 115, 3139-3142.	1.6	129
32	Multifunctional Nanowire Evanescent Wave Optical Sensors. Advanced Materials, 2007, 19, 61-66.	11.1	120
33	Increasing the Band Gap of Iron Pyrite by Alloying with Oxygen. Journal of the American Chemical Society, 2012, 134, 13216-13219.	6.6	96
34	First-principles studies of the electronic properties of native and substitutional anionic defects in bulk iron pyrite. Physical Review B, 2012, 85, .	1.1	83
35	An inversion layer at the surface of n-type iron pyrite. Energy and Environmental Science, 2014, 7, 1974.	15.6	75
36	High charge-carrier mobility enables exploitation of carrier multiplication in quantum-dot films. Nature Communications, 2013, 4, 2360.	5.8	73

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37	Collective topo-epitaxy in the self-assembly of a 3D quantum dot superlattice. Nature Materials, 2020, 19, 49-55.	13.3	68
38	Efficient Plasmon-Mediated Energy Funneling to the Surface of Au@Pt Coreâ€“Shell Nanocrystals. ACS Nano, 2020, 14, 5061-5074.	7.3	64
39	Generating Free Charges by Carrier Multiplication in Quantum Dots for Highly Efficient Photovoltaics. Accounts of Chemical Research, 2015, 48, 174-181.	7.6	56
40	Dynamic deformability of individual PbSe nanocrystals during superlattice phase transitions. Science Advances, 2019, 5, eaaw5623.	4.7	52
41	Carrier Transport in PbS and PbSe QD Films Measured by Photoluminescence Quenching. Journal of Physical Chemistry C, 2014, 118, 16228-16235.	1.5	50
42	Activating Carrier Multiplication in PbSe Quantum Dot Solids by Infilling with Atomic Layer Deposition. Journal of Physical Chemistry Letters, 2013, 4, 1766-1770.	2.1	49
43	Gate-Dependent Carrier Diffusion Length in Lead Selenide Quantum Dot Field-Effect Transistors. Nano Letters, 2013, 13, 3463-3469.	4.5	32
44	Thermally Driven Interfacial Dynamics of Metal/Oxide Bilayer Nanoribbons. Small, 2005, 1, 858-865.	5.2	24
45	Solution-processable integrated CMOS circuits based on colloidal CuInSe2 quantum dots. Nature Communications, 2020, 11, 5280.	5.8	23
46	Atomistic Modeling of Sulfur Vacancy Diffusion Near Iron Pyrite Surfaces. Journal of Physical Chemistry C, 2015, 119, 24859-24864.	1.5	21
47	Charge-Transport Mechanisms in CuInSe_{<i>x</i>}S_{2â€“<i>x</i>} Quantum-Dot Films. ACS Nano, 2018, 12, 12587-12596.	7.3	21
48	In situ TEM observation of neck formation during oriented attachment of PbSe nanocrystals. Nano Research, 2019, 12, 2549-2553.	5.8	20
49	Structural and magnetic properties of cobalt iron disulfide (CoxFe1âˆ’xS2) nanocrystals. Scientific Reports, 2018, 8, 4835.	1.6	18
50	In Situ TEM Study of the Degradation of PbSe Nanocrystals in Air. Chemistry of Materials, 2019, 31, 190-199.	3.2	18
51	Chemical Generation of Hydroxyl Radical for Oxidative â€˜Footprintingâ€™. Protein and Peptide Letters, 2019, 26, 61-69.	0.4	17
52	Low-frequency electronic noise in superlattice and random-packed thin films of colloidal quantum dots. Nanoscale, 2019, 11, 20171-20178.	2.8	15
53	Phonons Do Not Assist Carrier Multiplication in PbSe Quantum Dot Solids. Journal of Physical Chemistry Letters, 2013, 4, 3257-3262.	2.1	13
54	On the Use of Photocurrent Imaging To Determine Carrier Diffusion Lengths in Nanostructured Thin-Film Field-Effect Transistors. Journal of Physical Chemistry C, 2018, 122, 18356-18364.	1.5	12

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55	Electronic passivation of PbSe quantum dot solids by trimethylaluminum vapor dosing. Applied Surface Science, 2020, 513, 145812.	3.1	10
56	Synthesis of Catecholate Ligands with Phosphonate Anchoring Groups. Inorganic Chemistry, 2015, 54, 7571-7578.	1.9	8
57	Structural characterization of a polycrystalline epitaxially-fused colloidal quantum dot superlattice by electron tomography. Journal of Materials Chemistry A, 2020, 8, 18254-18265.	5.2	7
58	Protein footprinting by pyrite shrink-wrap laminate. Lab on A Chip, 2015, 15, 1646-1650.	3.1	6
59	Reversible Aggregation of Covalently Cross-Linked Gold Nanocrystals by Linker Oxidation. Journal of Physical Chemistry C, 2019, 123, 23643-23654.	1.5	6
60	Chemical sensing with nanowires using electrical and optical detection. International Journal of Nanotechnology, 2007, 4, 252.	0.1	5
61	Uniform Supported Metal Nanocrystal Catalysts Prepared by Slurry Freeze-Drying. Chemistry of Materials, 2021, 33, 256-265.	3.2	5
62	Photobase-Triggered Formation of 3D Epitaxially Fused Quantum Dot Superlattices with High Uniformity and Low Bulk Defect Densities. ACS Nano, 2022, 16, 3239-3250.	7.3	5
63	Solar cells based on colloidal quantum dot solids: Seeking enhanced photocurrent. , 2009, , .		4
64	Evaluation of Nanostructured Î²-Mn₂V₂O₇ Thin Films as Photoanodes for Photoelectrochemical Water Oxidation. Chemistry of Materials, 2021, 33, 7743-7754.	3.2	4
65	Nanowire dye-sensitized solar cells. , 2010, , 75-79.		3
66	Silica Shell Growth on Vitreophobic Gold Nanoparticles Probed by Plasmon Resonance Dynamics. Journal of Physical Chemistry C, 0, , .	1.5	3
67	Low-Temperature Wafer-Scale Production of ZnO Nanowire Arrays.. ChemInform, 2003, 34, no.	0.1	2
68	Hierarchical carrier transport simulator for defected nanoparticle solids. Scientific Reports, 2021, 11, 7458.	1.6	2
69	Semiconductor Nanowires for Subwavelength Photonics Integration. ChemInform, 2005, 36, no.	0.1	1
70	EFTEM Imaging of ZnO-TiO2 Core-Shell Nanowires and TiO2 Nanotubes. Microscopy and Microanalysis, 2006, 12, 474-475.	0.2	1
71	Modeling and simulation of nanocrystal solids with rate equations. Proceedings of SPIE, 2011, , .	0.8	1
72	Imaging interfacial layers and internal fields in nanocrystalline junctions. , 2014, , .		0