Samuel S Mao

List of Publications by Year in Descending Order

118 papers	33,575 citations	45 h-index	133 g-index
133 ext. papers	35,766 ext. citations	9.3 avg, IF	7.53 L-index

#	Paper	IF	Citations
118	Where Am I? SLAM for Mobile Machines on a Smart Working Site. *Vehicles*, **2022**, 4, 529-552	1.5	0
117	Enhanced photocatalytic water splitting of TiO2 by decorating with facet-controlled Au nanocrystals. *Applied Physics Letters*, **2021**, 119, 143901	3.4	3
116	Recent Progress on Photocatalytic CO2 Reduction with Earth-abundant Single-atom Reactive Sites. *ChemNanoMat*, **2021**, 7, 873-880	3.5	3
115	Nanosized BaSnO3 as Electron Transport Promoter Coupled with g-C3N4 toward Enhanced Photocatalytic H2 Production. *Advanced Sustainable Systems*, **2021**, 5, 2100138	5.9	3
114	Function-switchable metal/semiconductor junction enables efficient photocatalytic overall water splitting with selective water oxidation products. *Science Bulletin*, **2020**, 65, 1389-1395	10.6	20
113	Graphitic Carbon Nitride-Based Low-Dimensional Heterostructures for Photocatalytic Applications. *Solar Rrl*, **2020**, 4, 1900435	7.1	40
112	Trap-Assisted Charge Injection into Large Bandgap Polymer Semiconductors. *Materials*, **2019**, 12,	3.5	2
111	N-doped porous hard-carbon derived from recycled separators for efficient lithium-ion and sodium-ion batteries. *Sustainable Energy and Fuels*, **2019**, 3, 717-722	5.8	27
110	In Situ Deposition of Pd during Oxygen Reduction Yields Highly Selective and Active Electrocatalysts for Direct H2O2 Production. *ACS Catalysis*, **2019**, 9, 8453-8463	13.1	27
109	Nickel complex engineered interface energetics for efficient photoelectrochemical hydrogen evolution over p-Si. *Applied Catalysis B: Environmental*, **2018**, 220, 362-366	21.8	21
108	Titanium dioxide nanostructures for photoelectrochemical applications. *Progress in Materials Science*, **2018**, 98, 299-385	42.2	148
107	Reinforced photocatalytic reduction of CO2 to fuel by efficient S-TiO2: Significance of sulfur doping. *International Journal of Hydrogen Energy*, **2018**, 43, 17682-17695	6.7	26
106	H-doped TiO2-x prepared with MgH2 for highly efficient solar-driven hydrogen production. *Applied Catalysis B: Environmental*, **2018**, 237, 613-621	21.8	27
105	Enhancing Solar-Driven Water Splitting with Surface-Engineered Nanostructures. *Solar Rrl*, **2018**, 3, 1800285	7.8	4
104	Black TiO2 for solar hydrogen conversion. *Journal of Materiomics*, **2017**, 3, 96-111	6.7	54
103	Pulsed laser-deposited n-Si/NiOx photoanodes for stable and efficient photoelectrochemical water splitting. *Catalysis Science and Technology*, **2017**, 7, 2632-2638	5.5	15
102	Interlayer interaction in ultrathin nanosheets of graphitic carbon nitride for efficient photocatalytic hydrogen evolution. *Journal of Catalysis*, **2017**, 352, 491-497	7.3	57

101	Engineering a hierarchical hollow hematite nanostructure for lithium storage. *Journal of Materials Chemistry A*, **2016**, 4, 14687-14692	13	11
100	Enhanced photocatalytic hydrogen evolution over graphitic carbon nitride modified with Ti-activated mesoporous silica. *Applied Catalysis A: General*, **2016**, 521, 111-117	5.1	15
99	Combination of nanosizing and interfacial effect: Future perspective for designing Mg-based nanomaterials for hydrogen storage. *Renewable and Sustainable Energy Reviews*, **2015**, 44, 289-303	16.2	128
98	Combinatorial screening of thin film materials: An overview. *Journal of Materiomics*, **2015**, 1, 85-91	6.7	12
97	Metallic Ni nanocatalyst in situ formed from a metal–organic-framework by mechanochemical reaction for hydrogen storage in magnesium. *Journal of Materials Chemistry A*, **2015**, 3, 8294-8299	13	49
96	High-Throughput Multi-Plume Pulsed-Laser Deposition for Materials Exploration and Optimization. *Engineering*, **2015**, 1, 367-371	9.7	6
95	Surface engineered doping of hematite nanorod arrays for improved photoelectrochemical water splitting. *Scientific Reports*, **2014**, 4, 6627	4.9	130
94	Optimization of ZnSe film growth conditions for p-type doping. *Applied Physics A: Materials Science and Processing*, **2014**, 114, 347-350	2.6	4
93	Surface passivation of undoped hematite nanorod arrays via aqueous solution growth for improved photoelectrochemical water splitting. *Journal of Colloid and Interface Science*, **2014**, 427, 20-4	9.3	25
92	Co3O4 quantum dots: reverse micelle synthesis and visible-light-driven photocatalytic overall water splitting. *Chemical Communications*, **2014**, 50, 2002-4	5.8	81
91	Enabling silicon for solar-fuel production. *Chemical Reviews*, **2014**, 114, 8662-719	68.1	274
90	Physical and photoelectrochemical properties of Zr-doped hematite nanorod arrays. *Nanoscale*, **2013**, 5, 9867-74	7.7	83
89	Properties of disorder-engineered black titanium dioxide nanoparticles through hydrogenation. *Scientific Reports*, **2013**, 3, 1510	4.9	292
88	ZnO deposition on metal substrates: Relating fabrication, morphology, and wettability. *Journal of Applied Physics*, **2013**, 113, 184905	2.5	4
87	High throughput growth and characterization of thin film materials. *Journal of Crystal Growth*, **2013** , 379, 123-130	1.6	25
86	Zincblende-wurtzite phase transformation of ZnSe films by pulsed laser deposition with nitrogen doping. *Applied Physics Letters*, **2013**, 103, 082111	3.4	9
85	On the orbital anisotropy in hematite nanorod-based photoanodes. *Physical Chemistry Chemical Physics*, **2013**, 15, 13483-8	3.6	17
84	A ZnO/ZnO:Cr isostructural nanojunction electrode for photoelectrochemical water splitting. *Nano Energy*, **2013**, 2, 958-965	17.1	25

83	Hydrogenation and disorder in engineered black TiO2. *Physical Review Letters*, **2013**, 111, 065505	7.4	185
82	Physical and photoelectrochemical characterization of Ti-doped hematite photoanodes prepared by solution growth. *Journal of Materials Chemistry A*, **2013**, 1, 14498	13	79
81	Comparison of the Organic Flash Cycle (OFC) to other advanced vapor cycles for intermediate and high temperature waste heat reclamation and solar thermal energy. *Energy*, **2012**, 42, 213-223	7.9	102
80	Engineering Impurity Distributions in Photoelectrodes for Solar Water Oxidation. *Advanced Energy Materials*, **2012**, 2, 52-57	21.8	15
79	Soft X-ray characterization of Zn(1-x)Sn(x)O(y) electronic structure for thin film photovoltaics. *Physical Chemistry Chemical Physics*, **2012**, 14, 10154-9	3.6	46
78	Observation of Substrate Orientation-Dependent Oxygen Defect Filling in Thin WO3/TiO2 Pulsed Laser-Deposited Films with in Situ XPS at High Oxygen Pressure and Temperature. *Chemistry of Materials*, **2012**, 24, 3473-3480	9.6	24
77	Approximating the electrical enhancement effects in a nano-patterned, injection-limited, single-layer organic light-emitting diode. *Journal of Applied Physics*, **2012**, 112, 024512	2.5	3
76	Nanomaterials for renewable energy production and storage. *Chemical Society Reviews*, **2012**, 41, 7909-37	38.5	729
75	Increased power production through enhancements to the Organic Flash Cycle (OFC). *Energy*, **2012**, 45, 686-695	7.9	61
74	Effect of Cr doping on the photoelectrochemical performance of hematite nanorod photoanodes. *Nano Energy*, **2012**, 1, 732-741	17.1	109
73	Ideal transparent conductors for full spectrum photovoltaics. *Journal of Applied Physics*, **2012**, 111, 123505	2.5	69
72	Nanomaterials for renewable hydrogen production, storage and utilization. *Progress in Natural Science: Materials International*, **2012**, 22, 522-534	3.6	82
71	Nanostructure designs for effective solar-to-hydrogen conversion. *Nanophotonics*, **2012**, 1, 31-50	6.3	44
70	Surface tuning for promoted charge transfer in hematite nanorod arrays as water-splitting photoanodes. *Nano Research*, **2012**, 5, 327-336	10	71
69	Visible light-driven photocatalysis of doped SrTiO3 tubular structure. *Optics Express*, **2012**, 20 Suppl 2, A351-9	3.3	16
68	Growth of highly oriented YSZ and CeO2 films with Tasker-forbidden surfaces in oxygen-deficient environments. *Journal of Applied Physics*, **2012**, 111, 093530	2.5	1
67	TiO2-SnO2:F interfacial electronic structure investigated by soft x-ray absorption spectroscopy. *Physical Review B*, **2012**, 85,	3.3	33
66	Increasing solar absorption for photocatalysis with black hydrogenated titanium dioxide nanocrystals. *Science*, **2011**, 331, 746-50	33.3	4625

65	Doped, porous iron oxide films and their optical functions and anodic photocurrents for solar water splitting. *Applied Physics Letters*, **2011**, 98, 092108	3.4	21
64	Electron enrichment in 3d transition metal oxide hetero-nanostructures. *Nano Letters*, **2011**, 11, 3855-61	11.5	64
63	A perspective on solar-driven water splitting with all-oxide hetero-nanostructures. *Energy and Environmental Science*, **2011**, 4, 3889	35.4	201
62	High throughput combinatorial screening of semiconductor materials. *Applied Physics A: Materials Science and Processing*, **2011**, 105, 283-288	2.6	15
61	Improving organic light-emitting diode performance with patterned structures. *Applied Physics A: Materials Science and Processing*, **2011**, 105, 323-327	2.6	12
60	Phosphine oxide-functionalized polyfluorene derivatives: Synthesis, photophysics, electrochemical properties, and electroluminescence performance. *Science China Chemistry*, **2011**, 54, 678-684	7.9	6
59	Solar light-driven photocatalytic hydrogen evolution over ZnIn2S4 loaded with transition-metal sulfides. *Nanoscale Research Letters*, **2011**, 6, 290	5	45
58	A High-Performance, Nanostructured Ba0.5Sr0.5Co0.8Fe0.2O3-□ Cathode for Solid-Oxide Fuel Cells. *Advanced Energy Materials*, **2011**, 1, 343-346	21.8	44
57	The impact of cooling on cell temperature and the practical solar concentration limits for photovoltaics. *International Journal of Energy Research*, **2011**, 35, 1250-1257	4.5	10
56	Surface and Bulk Oxygen Vacancy Defect States near the Fermi Level in 125 nm WO3/TiO2(110) Films: A Resonant Valence Band Photoemission Spectroscopy Study. *Journal of Physical Chemistry C* , **2011**, 115, 16411-16417	3.8	15
55	Real-time probing of ultrafast residual charge dynamics. *Applied Physics Letters*, **2011**, 98, 011501	3.4	16
54	Development of New Polymer Systems and Quantum Dots - Polymer Nanocomposites for Low-cost, Flexible OLED Display Applications. *Materials Research Society Symposia Proceedings*, **2011**, 1359, 31		4
53	Surface Modification of □Fe2O3 Nanorod Array Photoanodes for Improved Light-Induced Water Splitting. *Materials Research Society Symposia Proceedings*, **2011**, 1326, 1		1
52	Ultrafast electron beam imaging of femtosecond laser-induced plasma dynamics. *Journal of Applied Physics*, **2010**, 107, 083305	2.5	20
51	Ultrafast thin-film laser-induced breakdown spectroscopy of doped oxides **2010**, 49, C67		10
50	Semiconductor-based photocatalytic hydrogen generation. *Chemical Reviews*, **2010**, 110, 6503-70	68.1	6015
49	Effect of Noble Metal in CdS/M/TiO2 for Photocatalytic Degradation of Methylene Blue under Visible Light. *International Journal of Green Nanotechnology: Materials Science and Engineering*, **2010**, 1, M94-M104		28
48	Band structure engineering of ZnO 1-x Se x alloys **2010**,		1

47	Band structure engineering of ZnO1−xSex alloys. *Applied Physics Letters*, **2010**, 97, 022104	3.4	50
46	CdSe/ZnS Nanoparticle Composites with Amine-Functionalized Polyfluorene Derivatives for Polymeric Light-Emitting Diodes: Synthesis, Photophysical Properties, and the Electroluminescent Performance. *Macromolecules*, **2010**, 43, 1860-1866	5.5	37
45	Improving efficiency of high-concentrator photovoltaics by cooling with two-phase forced convection. *International Journal of Energy Research*, **2010**, 34, n/a-n/a	4.5	6
44	Hydrogen storage property of sandwiched magnesium hydride nanoparticle thin film. *International Journal of Hydrogen Energy*, **2010**, 35, 7232-7235	6.7	37
43	High throughput optical characterization of alloy hydrogenation. *International Journal of Hydrogen Energy*, **2010**, 35, 7228-7231	6.7	9
42	Effect of Ag2S on solar-driven photocatalytic hydrogen evolution of nanostructured CdS. *International Journal of Hydrogen Energy*, **2010**, 35, 7110-7115	6.7	119
41	Absence of amorphous phase in high power femtosecond laser-ablated silicon. *Applied Physics Letters*, **2009**, 94, 011111	3.4	12
40	Laser ablation of organic materials for discrimination of bacteria in an inorganic background **2009**,		4
39	Strain relaxation of CdTe films growing on lattice-mismatched substrates. *Applied Physics A: Materials Science and Processing*, **2009**, 96, 379-384	2.6	8
38	Hydrogen storage characteristics of nanograined free-standing magnesium–nickel films. *Applied Physics A: Materials Science and Processing*, **2009**, 96, 349-352	2.6	11
37	Lateral and vertical ordered one-dimensional InGaAs/GaAs quantum structures. *Applied Physics A: Materials Science and Processing*, **2009**, 96, 307-315	2.6	2
36	Organic light-emitting diodes with carbon nanotube cathode-organic interface layer. *Applied Physics Letters*, **2009**, 94, 013110	3.4	29
35	Experimental and theoretical studies on gadolinium doping in ZnTe. *Journal of Applied Physics*, **2008** , 103, 023711	2.5	6
34	Ferromagnetism in GaN:Gd: a density functional theory study. *Physical Review Letters*, **2008**, 100, 127203	7.4	133
33	Femtosecond laser-induced electronic plasma at metal surface. *Applied Physics Letters*, **2008**, 93, 051506	3.4	21
32	Theory analysis of wavelength dependence of laser-induced phase explosion of silicon. *Journal of Applied Physics*, **2008**, 104, 083301	2.5	32
31	In situ monitoring of material processing by a pulsed laser beam coupled via a lensed fiber into a scanning electron microscope. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **2008**, 26, 1432-1438	2.9	7
30	Selected nanotechnologies for renewable energy applications. *International Journal of Energy Research*, **2007**, 31, 619-636	4.5	136

29	Fabrication of 10□nm diameter TiO2 nanotube arrays by titanium anodization. *Thin Solid Films*, **2007**, 515, 8511-8514	2.2	52
28	Time-resolved ultraviolet laser-induced breakdown spectroscopy for organic material analysis. *Spectrochimica Acta, Part B: Atomic Spectroscopy*, **2007**, 62, 1329-1334	3.1	98
27	Titanium dioxide nanomaterials: synthesis, properties, modifications, and applications. *Chemical Reviews*, **2007**, 107, 2891-959	68.1	8515
26	Proton exchange membrane fuel cells with chromium nitride nanocrystals as electrocatalysts. *Applied Physics Letters*, **2007**, 91, 163103	3.4	25
25	Strain-induced electronic energy changes in multilayered InGaAs□GaAs quantum wire structures. *Journal of Applied Physics*, **2007**, 101, 044305	2.5	7
24	Organic light-emitting diodes with structured cathode. *Applied Physics Letters*, **2007**, 91, 093514	3.4	18
23	Strategies of Nanoscale Semiconductor Lasers. *Nanostructure Science and Technology*, **2007**, 105-169	0.9	
22	Synthesis of titanium dioxide (TiO2) nanomaterials. *Journal of Nanoscience and Nanotechnology*, **2006**, 6, 906-25	1.3	151
21	Temperature dependence of Optical Transitions of One Dimensional InGaAs/GaAs Quantum Structures. *Materials Research Society Symposia Proceedings*, **2006**, 959, 1		
20	Laser-induced shockwave propagation from ablation in a cavity. *Applied Physics Letters*, **2006**, 88, 061502	3.4	71
19	Femtosecond laser assisted growth of ZnO nanowires. *Applied Physics Letters*, **2005**, 87, 133115	3.4	74
18	Laser-induced breakdown spectroscopy: flat surface vs. cavity structures. *Journal of Analytical Atomic Spectrometry*, **2004**, 19, 495	3.7	22
17	Laser□lasma interactions in fused silica cavities. *Journal of Applied Physics*, **2004**, 95, 816-822	2.5	64
16	Nanolasers: lasing from nanoscale quantum wires. *International Journal of Nanotechnology*, **2004**, 1, 42	1.5	41
15	Plasma diagnostics during laser ablation in a cavity. *Spectrochimica Acta, Part B: Atomic Spectroscopy*, **2003**, 58, 867-877	3.1	69
14	Comparison of ultraviolet femtosecond and nanosecond laser ablation inductively coupled plasma mass spectrometry analysis in glass, monazite, and zircon. *Analytical Chemistry*, **2003**, 75, 6184-90	7.8	132
13	Imaging femtosecond laser-induced electronic excitation in glass. *Applied Physics Letters*, **2003**, 82, 697-699	3.4	70
12	Laser-induced plasmas in micromachined fused silica cavities. *Applied Physics Letters*, **2003**, 83, 240-242	3.4	22

11	Optical energy conversion in crystalline nanowires **2002**, 4608, 225		3
10	Thermal model of phase explosion for high-power laser ablation **2002**,		5
9	Delayed phase explosion during high-power nanosecond laser ablation of silicon. *Applied Physics Letters*, **2002**, 80, 3072-3074	3.4	140
8	Femtosecond laser ablation ICP-MS. *Journal of Analytical Atomic Spectrometry*, **2002**, 17, 1072-1075	3.7	171
7	Laser ablation in analytical chemistry-a review. *Talanta*, **2002**, 57, 425-51	6.2	450
6	Room-temperature ultraviolet nanowire nanolasers. *Science*, **2001**, 292, 1897-9	33.3	7931
5	Influence of preformed shock wave on the development of picosecond laser ablation plasma. *Journal of Applied Physics*, **2001**, 89, 4096-4098	2.5	26
4	Plasma Development During Picosecond Laser Processing of Electronic Materials. *Journal of Heat Transfer*, **2000**, 122, 424-424	1.8	1
3	Simulation of a picosecond laser ablation plasma. *Applied Physics Letters*, **2000**, 76, 3370-3372	3.4	36
2	Initiation of an early-stage plasma during picosecond laser ablation of solids. *Applied Physics Letters* , **2000**, 77, 2464-2466	3.4	104
1	Dynamics of an air breakdown plasma on a solid surface during picosecond laser ablation. *Applied Physics Letters*, **2000**, 76, 31-33	3.4	38