Samuel S Mao

List of Publications by Year
in descending order

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127 papers	37,851 citations	41344 49 h-index	18647 119 g-index
133 all docs	133 docs citations	133 times ranked	37136 citing authors

#	Article	IF	Citations
1	Titanium Dioxide Nanomaterials:â€‰ Synthesis, Properties, Modifications, and Applications. Chemical Reviews, 2007, 107, 2891-2959.	47.7	9,393
2	Room-Temperature Ultraviolet Nanowire Nanolasers. Science, 2001, 292, 1897-1899.	12.6	8,567
3	Semiconductor-based Photocatalytic Hydrogen Generation. Chemical Reviews, 2010, 110, 6503-6570.	47.7	6,836
4	Increasing Solar Absorption for Photocatalysis with Black Hydrogenated Titanium Dioxide Nanocrystals. Science, 2011, 331, 746-750.	12.6	5,359
5	Nanomaterials for renewable energy production and storage. Chemical Society Reviews, 2012, 41, 7909.	38.1	856
6	Laser ablation in analytical chemistryâ€”a review. Talanta, 2002, 57, 425-451.	5.5	500
7	Enabling Silicon for Solar-Fuel Production. Chemical Reviews, 2014, 114, 8662-8719.	47.7	329
8	Properties of Disorder-Engineered Black Titanium Dioxide Nanoparticles through Hydrogenation. Scientific Reports, 2013, 3, 1510.	3.3	317
9	A perspective on solar-driven water splitting with all-oxide hetero-nanostructures. Energy and Environmental Science, 2011, 4, 3889.	30.8	219
10	Titanium dioxide nanostructures for photoelectrochemical applications. Progress in Materials Science, 2018, 98, 299-385.	32.8	205
11	Femtosecond laser ablation ICP-MS. Journal of Analytical Atomic Spectrometry, 2002, 17, 1072-1075.	3.0	200
12	Hydrogenation and Disorder in Engineered Black<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>TiO</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:math>. Physical Review Letters, 2013, 111, 065505.	7.8	199
13	Synthesis of Titanium Dioxide (TiO₂) Nanomaterials. Journal of Nanoscience and Nanotechnology, 2006, 6, 906-925.	0.9	173
14	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.	16.4	164
15	Delayed phase explosion during high-power nanosecond laser ablation of silicon. Applied Physics Letters, 2002, 80, 3072-3074.	3.3	160
16	Surface Engineered Doping of Hematite Nanorod Arrays for Improved Photoelectrochemical Water Splitting. Scientific Reports, 2014, 4, 6627.	3.3	160
17	Selected nanotechnologies for renewable energy applications. International Journal of Energy Research, 2007, 31, 619-636.	4.5	152
18	Comparison of Ultraviolet Femtosecond and Nanosecond Laser Ablation Inductively Coupled Plasma Mass Spectrometry Analysis in Glass, Monazite, and Zircon. Analytical Chemistry, 2003, 75, 6184-6190.	6.5	144

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19	Ferromagnetism in GaN:Gd: A Density Functional Theory Study. Physical Review Letters, 2008, 100, 127203.	7.8	143
20	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.	8.8	134
21	Effect of Ag2S on solar-driven photocatalytic hydrogen evolution of nanostructured CdS. International Journal of Hydrogen Energy, 2010, 35, 7110-7115.	7.1	126
22	Effect of Cr doping on the photoelectrochemical performance of hematite nanorod photoanodes. Nano Energy, 2012, 1, 732-741.	16.0	125
23	Initiation of an early-stage plasma during picosecond laser ablation of solids. Applied Physics Letters, 2000, 77, 2464-2466.	3.3	124
24	Time-resolved ultraviolet laser-induced breakdown spectroscopy for organic material analysis. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2007, 62, 1329-1334.	2.9	111
25	Nanomaterials for renewable hydrogen production, storage and utilization. Progress in Natural Science: Materials International, 2012, 22, 522-534.	4.4	111
26	Physical and photoelectrochemical properties of Zr-doped hematite nanorod arrays. Nanoscale, 2013, 5, 9867.	5.6	106
27	Interlayer interaction in ultrathin nanosheets of graphitic carbon nitride for efficient photocatalytic hydrogen evolution. Journal of Catalysis, 2017, 352, 491-497.	6.2	92
28	Co3O4 quantum dots: reverse micelle synthesis and visible-light-driven photocatalytic overall water splitting. Chemical Communications, 2014, 50, 2002.	4.1	89
29	Imaging femtosecond laser-induced electronic excitation in glass. Applied Physics Letters, 2003, 82, 697-699.	3.3	86
30	Ideal transparent conductors for full spectrum photovoltaics. Journal of Applied Physics, 2012, 111, .	2.5	86
31	Physical and photoelectrochemical characterization of Ti-doped hematite photoanodes prepared by solution growth. Journal of Materials Chemistry A, 2013, 1, 14498.	10.3	83
32	Increased power production through enhancements to the Organic Flash Cycle (OFC). Energy, 2012, 45, 686-695.	8.8	81
33	Surface tuning for promoted charge transfer in hematite nanorod arrays as water-splitting photoanodes. Nano Research, 2012, 5, 327-336.	10.4	80
34	Laser-induced shockwave propagation from ablation in a cavity. Applied Physics Letters, 2006, 88, 061502.	3.3	78
35	Plasma diagnostics during laser ablation in a cavity. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2003, 58, 867-877.	2.9	77
36	Femtosecond laser assisted growth of ZnO nanowires. Applied Physics Letters, 2005, 87, 133115.	3.3	76

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37	Electron Enrichment in 3d Transition Metal Oxide Hetero-Nanostructures. Nano Letters, 2011, 11, 3855-3861.	9.1	74
38	Black TiO 2 for solar hydrogen conversion. Journal of Materiomics, 2017, 3, 96-111.	5.7	73
39	Laserâ€“plasma interactions in fused silica cavities. Journal of Applied Physics, 2004, 95, 816-822.	2.5	68
40	Metallic Ni nanocatalyst in situ formed from a metalâ€“organic-framework by mechanochemical reaction for hydrogen storage in magnesium. Journal of Materials Chemistry A, 2015, 3, 8294-8299.	10.3	65
41	Graphitic Carbon Nitrideâ€Based Lowâ€Dimensional Heterostructures for Photocatalytic Applications. Solar Rrl, 2020, 4, 1900435.	5.8	65
42	In Situ Deposition of Pd during Oxygen Reduction Yields Highly Selective and Active Electrocatalysts for Direct H₂O₂ Production. ACS Catalysis, 2019, 9, 8453-8463.	11.2	60
43	Fabrication of 10Ânm diameter TiO2 nanotube arrays by titanium anodization. Thin Solid Films, 2007, 515, 8511-8514.	1.8	58
44	Soft X-ray characterization of Zn1â^'xSnxOy electronic structure for thin film photovoltaics. Physical Chemistry Chemical Physics, 2012, 14, 10154.	2.8	58
45	Band structure engineering of ZnO1â^'xSex alloys. Applied Physics Letters, 2010, 97, .	3.3	56
46	Catalysing artificial photosynthesis. Nature Photonics, 2013, 7, 944-946.	31.4	56
47	A Highâ€Performance, Nanostructured Ba_{0.5}Sr_{0.5}Co_{0.8}Fe_{0.2}O_{3â€Î´} Cathode for Solidâ€Oxide Fuel Cells. Advanced Energy Materials, 2011, 1, 343-346.	19.5	53
48	Solar light-driven photocatalytic hydrogen evolution over ZnIn2S4 loaded with transition-metal sulfides. Nanoscale Research Letters, 2011, 6, 290.	5.7	52
49	Nanostructure designs for effective solar-to-hydrogen conversion. Nanophotonics, 2012, 1, 31-50.	6.0	51
50	Function-switchable metal/semiconductor junction enables efficient photocatalytic overall water splitting with selective water oxidation products. Science Bulletin, 2020, 65, 1389-1395.	9.0	48
51	Theory analysis of wavelength dependence of laser-induced phase explosion of silicon. Journal of Applied Physics, 2008, 104, .	2.5	44
52	Dynamics of an air breakdown plasma on a solid surface during picosecond laser ablation. Applied Physics Letters, 2000, 76, 31-33.	3.3	43
53	Reinforced photocatalytic reduction of CO2 to fuel by efficient S-TiO2: Significance of sulfur doping. International Journal of Hydrogen Energy, 2018, 43, 17682-17695.	7.1	43
54	Simulation of a picosecond laser ablation plasma. Applied Physics Letters, 2000, 76, 3370-3372.	3.3	42

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55	Nanolasers: lasing from nanoscale quantum wires. International Journal of Nanotechnology, 2004, 1, 42.	0.2	42
56	H-doped TiO2-x prepared with MgH2 for highly efficient solar-driven hydrogen production. Applied Catalysis B: Environmental, 2018, 237, 613-621.	20.2	41
57	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.	4.9	41
58	Hydrogen storage property of sandwiched magnesium hydride nanoparticle thin film. International Journal of Hydrogen Energy, 2010, 35, 7232-7235.	7.1	39
59	"NO" xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>2</mml:mn></mml:msub></mml:math>-SnO<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>2</mml:mn></mml:msub></mml:math>:F interfacial electronic structure investigated by soft x-ray absorption spectroscopy. Physical Review B, 2013, 88,	3.2	39
60	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.	4.8	38
61	High throughput growth and characterization of thin film materials. Journal of Crystal Growth, 2013, 379, 123-130.	1.5	36
62	Organic light-emitting diodes with carbon nanotube cathode-organic interface layer. Applied Physics Letters, 2009, 94, 013110.	3.3	32
63	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.	0.5	32
64	Influence of preformed shock wave on the development of picosecond laser ablation plasma. Journal of Applied Physics, 2001, 89, 4096-4098.	2.5	29
65	Proton exchange membrane fuel cells with chromium nitride nanocrystals as electrocatalysts. Applied Physics Letters, 2007, 91, 163103.	3.3	28
66	Observation of Substrate Orientation-Dependent Oxygen Defect Filling in Thin WO_{3â^'Î´}/TiO₂ Pulsed Laser-Deposited Films with in Situ XPS at High Oxygen Pressure and Temperature. Chemistry of Materials, 2012, 24, 3473-3480.	6.7	27
67	A ZnO/ZnO:Cr isostructural nanojunction electrode for photoelectrochemical water splitting. Nano Energy, 2013, 2, 958-965.	16.0	27
68	Surface passivation of undoped hematite nanorod arrays via aqueous solution growth for improved photoelectrochemical water splitting. Journal of Colloid and Interface Science, 2014, 427, 20-24.	9.4	27
69	Laser-induced plasmas in micromachined fused silica cavities. Applied Physics Letters, 2003, 83, 240-242.	3.3	26
70	Laser-induced breakdown spectroscopy: flat surface vs. cavity structures. Journal of Analytical Atomic Spectrometry, 2004, 19, 495.	3.0	26
71	Femtosecond laser-induced electronic plasma at metal surface. Applied Physics Letters, 2008, 93, 051506.	3.3	26
72	Ultrafast electron beam imaging of femtosecond laser-induced plasma dynamics. Journal of Applied Physics, 2010, 107, .	2.5	25

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73	Doped, porous iron oxide films and their optical functions and anodic photocurrents for solar water splitting. Applied Physics Letters, 2011, 98, .	3.3	24
74	Pulsed laser-deposited n-Si/NiO_xphotoanodes for stable and efficient photoelectrochemical water splitting. Catalysis Science and Technology, 2017, 7, 2632-2638.	4.1	24
75	Nickel complex engineered interface energetics for efficient photoelectrochemical hydrogen evolution over p-Si. Applied Catalysis B: Environmental, 2018, 220, 362-366.	20.2	22
76	Real-time probing of ultrafast residual charge dynamics. Applied Physics Letters, 2011, 98, .	3.3	19
77	Combinatorial screening of thin film materials: An overview. Journal of Materiomics, 2015, 1, 85-91.	5.7	19
78	Organic light-emitting diodes with structured cathode. Applied Physics Letters, 2007, 91, 093514.	3.3	18
79	Engineering Impurity Distributions in Photoelectrodes for Solar Water Oxidation. Advanced Energy Materials, 2012, 2, 52-57.	19.5	18
80	On the orbital anisotropy in hematite nanorod-based photoanodes. Physical Chemistry Chemical Physics, 2013, 15, 13483.	2.8	18
81	Surface and Bulk Oxygen Vacancy Defect States near the Fermi Level in 125 nm WO_{3â^Î´}/TiO₂(110) Films: A Resonant Valence Band Photoemission Spectroscopy Study. Journal of Physical Chemistry C, 2011, 115, 16411-16417.	3.1	17
82	High throughput combinatorial screening of semiconductor materials. Applied Physics A: Materials Science and Processing, 2011, 105, 283-288.	2.3	16
83	Visible light-driven photocatalysis of doped SrTiO_3 tubular structure. Optics Express, 2012, 20, A351.	3.4	16
84	Enhanced photocatalytic hydrogen evolution over graphitic carbon nitride modified with Ti-activated mesoporous silica. Applied Catalysis A: General, 2016, 521, 111-117.	4.3	16
85	Absence of amorphous phase in high power femtosecond laser-ablated silicon. Applied Physics Letters, 2009, 94, .	3.3	14
86	Recent Progress on Photocatalytic CO 2 Reduction with Earthâ€abundant Singleâ€atom Reactive Sites. ChemNanoMat, 2021, 7, 873-880.	2.8	14
87	Ultrafast thin-film laser-induced breakdown spectroscopy of doped oxides. Applied Optics, 2010, 49, C67.	2.1	13
88	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	13
89	Engineering a hierarchical hollow hematite nanostructure for lithium storage. Journal of Materials Chemistry A, 2016, 4, 14687-14692.	10.3	13
90	Nanosized BaSnO₃ as Electron Transport Promoter Coupled with gâ€C₃N₄ toward Enhanced Photocatalytic H₂ Production. Advanced Sustainable Systems, 2021, 5, 2100138.	5.3	13

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91	Improving organic light-emitting diode performance with patterned structures. Applied Physics A: Materials Science and Processing, 2011, 105, 323-327.	2.3	12
92	Zincblende-wurtzite phase transformation of ZnSe films by pulsed laser deposition with nitrogen doping. Applied Physics Letters, 2013, 103, 082111.	3.3	12
93	Hydrogen storage characteristics of nanograined free-standing magnesiumâ€“nickel films. Applied Physics A: Materials Science and Processing, 2009, 96, 349-352.	2.3	11
94	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.	2.1	9
95	Strain relaxation of CdTe films growing on lattice-mismatched substrates. Applied Physics A: Materials Science and Processing, 2009, 96, 379-384.	2.3	9
96	High throughput optical characterization of alloy hydrogenation. International Journal of Hydrogen Energy, 2010, 35, 7228-7231.	7.1	9
97	ZnO deposition on metal substrates: Relating fabrication, morphology, and wettability. Journal of Applied Physics, 2013, 113, 184905.	2.5	9
98	High-Throughput Multi-Plume Pulsed-Laser Deposition for Materials Exploration and Optimization. Engineering, 2015, 1, 367-371.	6.7	9
99	Thermal model of phase explosion for high-power laser ablation. , 2002, , .		7
100	Strain-induced electronic energy changes in multilayered InGaAsâˆ•GaAs quantum wire structures. Journal of Applied Physics, 2007, 101, 044305.	2.5	7
101	Experimental and theoretical studies on gadolinium doping in ZnTe. Journal of Applied Physics, 2008, 103, .	2.5	7
102	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	7
103	Phosphine oxide-functionalized polyfluorene derivatives: Synthesis, photophysics, electrochemical properties, and electroluminescence performance. Science China Chemistry, 2011, 54, 678-684.	8.2	6
104	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.	0.1	6
105	Laser ablation of organic materials for discrimination of bacteria in an inorganic background. Proceedings of SPIE, 2009, , .	0.8	5
106	Enhancing Solarâ€Đriven Water Splitting with Surfaceâ€Ęngineered Nanostructures. Solar Rrl, 2018, 3, 1800285.	5.8	5
107	Enhanced photocatalytic water splitting of TiO2 by decorating with facet-controlled Au nanocrystals. Applied Physics Letters, 2021, 119, 143901.	3.3	5
108	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	4

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109	Optimization of ZnSe film growth conditions for p-type doping. Applied Physics A: Materials Science and Processing, 2014, 114, 347-350.	2.3	4
110	<title>Optical energy conversion in crystalline nanowires</title>. , 2002, 4608, 225.		3
111	Lateral and vertical ordered one-dimensional InGaAs/GaAs quantum structures. Applied Physics A: Materials Science and Processing, 2009, 96, 307-315.	2.3	3
112	Trap-Assisted Charge Injection into Large Bandgap Polymer Semiconductors. Materials, 2019, 12, 2427.	2.9	3
113	Plasma Development During Picosecond Laser Processing of Electronic Materials. Journal of Heat Transfer, 2000, 122, 424-424.	2.1	2
114	Band structure engineering of ZnO 1-x Se x alloys. , 2010, , .		2
115	Correlation between early-stage expansion and spectral emission of a nanosecond laser-induced plasma from organic material. Proceedings of SPIE, 2008, , .	0.8	1
116	A Density-Functional Study of Oxygen Impurity Complexes in CdTe. AIP Conference Proceedings, 2011, , .	0.4	1
117	Surface Modification of Î±-Fe2O3 Nanorod Array Photoanodes for Improved Light-Induced Water Splitting. Materials Research Society Symposia Proceedings, 2011, 1326, 1.	0.1	1
118	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
119	Where Am I? SLAM for Mobile Machines on a Smart Working Site. Vehicles, 2022, 4, 529-552.	3.1	1
120	Femtosecond time-resolved studies of laser ablation. , 2002, 4760, 432.		0
121	Temperature Dependence of Optical Transitions of One Dimensional InGaAs/GaAs Quantum Structures. Materials Research Society Symposia Proceedings, 2006, 959, 1.	0.1	0
122	Ultrafast lasers for nano-material growth and processing. , 2006, , .		0
123	Pulsed laser deposition of metal oxide photoelectrodes for solar-driven hydrogen production: fabrication techniques. Proceedings of SPIE, 2009, , .	0.8	0
124	Effect of Cu doping on Hole Mobility in CdTe. , 2010, , .		0
125	Transparent conductors for full spectrum photovoltaics. , 2012, , .		0
126	Influence of crater dimensions on laser induced plasma properties. , 2002, , .		0

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127	Strategies of Nanoscale Semiconductor Lasers. Nanostructure Science and Technology, 2007, , 105-169.	0.1	0