# Samuel S Mao

## List of Publications by Citations



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|---|---|---|---|
| 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 | Titanium dioxide nanomaterials: synthesis, properties, modifications, and applications. *Chemical Reviews*, **2007**, 107, 2891-959 | 68.1 | 8515 |
| 117 | Room-temperature ultraviolet nanowire nanolasers. *Science*, **2001**, 292, 1897-9 | 33.3 | 7931 |
| 116 | Semiconductor-based photocatalytic hydrogen generation. *Chemical Reviews*, **2010**, 110, 6503-70 | 68.1 | 6015 |
| 115 | Increasing solar absorption for photocatalysis with black hydrogenated titanium dioxide nanocrystals. *Science*, **2011**, 331, 746-50 | 33.3 | 4625 |
| 114 | Nanomaterials for renewable energy production and storage. *Chemical Society Reviews*, **2012**, 41, 7909-37 | 38.5 | 729 |
| 113 | Laser ablation in analytical chemistry-a review. *Talanta*, **2002**, 57, 425-51 | 6.2 | 450 |
| 112 | Properties of disorder-engineered black titanium dioxide nanoparticles through hydrogenation. *Scientific Reports*, **2013**, 3, 1510 | 4.9 | 292 |
| 111 | Enabling silicon for solar-fuel production. *Chemical Reviews*, **2014**, 114, 8662-719 | 68.1 | 274 |
| 110 | A perspective on solar-driven water splitting with all-oxide hetero-nanostructures. *Energy and Environmental Science*, **2011**, 4, 3889 | 35.4 | 201 |
| 109 | Hydrogenation and disorder in engineered black TiO2. *Physical Review Letters*, **2013**, 111, 065505 | 7.4 | 185 |
| 108 | Femtosecond laser ablation ICP-MS. *Journal of Analytical Atomic Spectrometry*, **2002**, 17, 1072-1075 | 3.7 | 171 |
| 107 | Synthesis of titanium dioxide (TiO2) nanomaterials. *Journal of Nanoscience and Nanotechnology*, **2006**, 6, 906-25 | 1.3 | 151 |
| 106 | Titanium dioxide nanostructures for photoelectrochemical applications. *Progress in Materials Science*, **2018**, 98, 299-385 | 42.2 | 148 |
| 105 | Delayed phase explosion during high-power nanosecond laser ablation of silicon. *Applied Physics Letters*, **2002**, 80, 3072-3074 | 3.4 | 140 |
| 104 | Selected nanotechnologies for renewable energy applications. *International Journal of Energy Research*, **2007**, 31, 619-636 | 4.5 | 136 |
| 103 | Ferromagnetism in GaN:Gd: a density functional theory study. *Physical Review Letters*, **2008**, 100, 127203 | 7.4 | 133 |
| 102 | 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 |

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| 101 | Surface engineered doping of hematite nanorod arrays for improved photoelectrochemical water splitting. *Scientific Reports*, **2014**, 4, 6627 | 4.9 | 130 |
| 100 | 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 |
| 99 | Effect of Ag2S on solar-driven photocatalytic hydrogen evolution of nanostructured CdS. *International Journal of Hydrogen Energy*, **2010**, 35, 7110-7115 | 6.7 | 119 |
| 98 | Effect of Cr doping on the photoelectrochemical performance of hematite nanorod photoanodes. *Nano Energy*, **2012**, 1, 732-741 | 17.1 | 109 |
| 97 | Initiation of an early-stage plasma during picosecond laser ablation of solids. *Applied Physics Letters* , **2000**, 77, 2464-2466 | 3.4 | 104 |
| 96 | 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 |
| 95 | Time-resolved ultraviolet laser-induced breakdown spectroscopy for organic material analysis. *Spectrochimica Acta, Part B: Atomic Spectroscopy*, **2007**, 62, 1329-1334 | 3.1 | 98 |
| 94 | Physical and photoelectrochemical properties of Zr-doped hematite nanorod arrays. *Nanoscale*, **2013**, 5, 9867-74 | 7.7 | 83 |
| 93 | Nanomaterials for renewable hydrogen production, storage and utilization. *Progress in Natural Science: Materials International*, **2012**, 22, 522-534 | 3.6 | 82 |
| 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 | Physical and photoelectrochemical characterization of Ti-doped hematite photoanodes prepared by solution growth. *Journal of Materials Chemistry A*, **2013**, 1, 14498 | 13 | 79 |
| 90 | Femtosecond laser assisted growth of ZnO nanowires. *Applied Physics Letters*, **2005**, 87, 133115 | 3.4 | 74 |
| 89 | Surface tuning for promoted charge transfer in hematite nanorod arrays as water-splitting photoanodes. *Nano Research*, **2012**, 5, 327-336 | 10 | 71 |
| 88 | Laser-induced shockwave propagation from ablation in a cavity. *Applied Physics Letters*, **2006**, 88, 061502 | 3.4 | 71 |
| 87 | Imaging femtosecond laser-induced electronic excitation in glass. *Applied Physics Letters*, **2003**, 82, 697-699 | 3.4 | 70 |
| 86 | Ideal transparent conductors for full spectrum photovoltaics. *Journal of Applied Physics*, **2012**, 111, 123505 | 2.5 | 69 |
| 85 | Plasma diagnostics during laser ablation in a cavity. *Spectrochimica Acta, Part B: Atomic Spectroscopy*, **2003**, 58, 867-877 | 3.1 | 69 |
| 84 | Electron enrichment in 3d transition metal oxide hetero-nanostructures. *Nano Letters*, **2011**, 11, 3855-61 | 11.5 | 64 |

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| 83 | Laser□plasma interactions in fused silica cavities. *Journal of Applied Physics*, **2004**, 95, 816-822 | 2.5 | 64 |
| 82 | Increased power production through enhancements to the Organic Flash Cycle (OFC). *Energy*, **2012**, 45, 686-695 | 7.9 | 61 |
| 81 | Interlayer interaction in ultrathin nanosheets of graphitic carbon nitride for efficient photocatalytic hydrogen evolution. *Journal of Catalysis*, **2017**, 352, 491-497 | 7.3 | 57 |
| 80 | Black TiO2 for solar hydrogen conversion. *Journal of Materiomics*, **2017**, 3, 96-111 | 6.7 | 54 |
| 79 | Fabrication of 10□nm diameter TiO2 nanotube arrays by titanium anodization. *Thin Solid Films*, **2007**, 515, 8511-8514 | 2.2 | 52 |
| 78 | Band structure engineering of ZnO1□Sex alloys. *Applied Physics Letters*, **2010**, 97, 022104 | 3.4 | 50 |
| 77 | 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 |
| 76 | 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 |
| 75 | Solar light-driven photocatalytic hydrogen evolution over ZnIn2S4 loaded with transition-metal sulfides. *Nanoscale Research Letters*, **2011**, 6, 290 | 5 | 45 |
| 74 | Nanostructure designs for effective solar-to-hydrogen conversion. *Nanophotonics*, **2012**, 1, 31-50 | 6.3 | 44 |
| 73 | 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 |
| 72 | Nanolasers: lasing from nanoscale quantum wires. *International Journal of Nanotechnology*, **2004**, 1, 42 | 1.5 | 41 |
| 71 | Graphitic Carbon Nitride-Based Low-Dimensional Heterostructures for Photocatalytic Applications. *Solar Rrl*, **2020**, 4, 1900435 | 7.1 | 40 |
| 70 | Dynamics of an air breakdown plasma on a solid surface during picosecond laser ablation. *Applied Physics Letters*, **2000**, 76, 31-33 | 3.4 | 38 |
| 69 | 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 |
| 68 | Hydrogen storage property of sandwiched magnesium hydride nanoparticle thin film. *International Journal of Hydrogen Energy*, **2010**, 35, 7232-7235 | 6.7 | 37 |
| 67 | Simulation of a picosecond laser ablation plasma. *Applied Physics Letters*, **2000**, 76, 3370-3372 | 3.4 | 36 |
| 66 | TiO2-SnO2:F interfacial electronic structure investigated by soft x-ray absorption spectroscopy. *Physical Review B*, **2012**, 85, | 3.3 | 33 |

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| 65 | Theory analysis of wavelength dependence of laser-induced phase explosion of silicon. *Journal of Applied Physics*, **2008**, 104, 083301 | 2.5 | 32 |
| 64 | Organic light-emitting diodes with carbon nanotube cathode-organic interface layer. *Applied Physics Letters*, **2009**, 94, 013110 | 3.4 | 29 |
| 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 | | 28 |
| 62 | 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 |
| 61 | 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 |
| 60 | 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 |
| 59 | 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 |
| 58 | Influence of preformed shock wave on the development of picosecond laser ablation plasma. *Journal of Applied Physics*, **2001**, 89, 4096-4098 | 2.5 | 26 |
| 57 | 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 |
| 56 | High throughput growth and characterization of thin film materials. *Journal of Crystal Growth*, **2013**, 379, 123-130 | 1.6 | 25 |
| 55 | A ZnO/ZnO:Cr isostructural nanojunction electrode for photoelectrochemical water splitting. *Nano Energy*, **2013**, 2, 958-965 | 17.1 | 25 |
| 54 | Proton exchange membrane fuel cells with chromium nitride nanocrystals as electrocatalysts. *Applied Physics Letters*, **2007**, 91, 163103 | 3.4 | 25 |
| 53 | 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 |
| 52 | Laser-induced breakdown spectroscopy: flat surface vs. cavity structures. *Journal of Analytical Atomic Spectrometry*, **2004**, 19, 495 | 3.7 | 22 |
| 51 | Laser-induced plasmas in micromachined fused silica cavities. *Applied Physics Letters*, **2003**, 83, 240-242 | 3.4 | 22 |
| 50 | Nickel complex engineered interface energetics for efficient photoelectrochemical hydrogen evolution over p-Si. *Applied Catalysis B: Environmental*, **2018**, 220, 362-366 | 21.8 | 21 |
| 49 | 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 |
| 48 | Femtosecond laser-induced electronic plasma at metal surface. *Applied Physics Letters*, **2008**, 93, 051506 | 3.4 | 21 |

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| 47 | 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 |
| 46 | Ultrafast electron beam imaging of femtosecond laser-induced plasma dynamics. *Journal of Applied Physics*, **2010**, 107, 083305 | 2.5 | 20 |
| 45 | Organic light-emitting diodes with structured cathode. *Applied Physics Letters*, **2007**, 91, 093514 | 3.4 | 18 |
| 44 | On the orbital anisotropy in hematite nanorod-based photoanodes. *Physical Chemistry Chemical Physics*, **2013**, 15, 13483-8 | 3.6 | 17 |
| 43 | Real-time probing of ultrafast residual charge dynamics. *Applied Physics Letters*, **2011**, 98, 011501 | 3.4 | 16 |
| 42 | Visible light-driven photocatalysis of doped SrTiO3 tubular structure. *Optics Express*, **2012**, 20 Suppl 2, A351-9 | 3.3 | 16 |
| 41 | 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 |
| 40 | 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 |
| 39 | Engineering Impurity Distributions in Photoelectrodes for Solar Water Oxidation. *Advanced Energy Materials*, **2012**, 2, 52-57 | 21.8 | 15 |
| 38 | High throughput combinatorial screening of semiconductor materials. *Applied Physics A: Materials Science and Processing*, **2011**, 105, 283-288 | 2.6 | 15 |
| 37 | 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 |
| 36 | Combinatorial screening of thin film materials: An overview. *Journal of Materiomics*, **2015**, 1, 85-91 | 6.7 | 12 |
| 35 | Improving organic light-emitting diode performance with patterned structures. *Applied Physics A: Materials Science and Processing*, **2011**, 105, 323-327 | 2.6 | 12 |
| 34 | Absence of amorphous phase in high power femtosecond laser-ablated silicon. *Applied Physics Letters*, **2009**, 94, 011111 | 3.4 | 12 |
| 33 | Engineering a hierarchical hollow hematite nanostructure for lithium storage. *Journal of Materials Chemistry A*, **2016**, 4, 14687-14692 | 13 | 11 |
| 32 | Hydrogen storage characteristics of nanograined free-standing magnesium–nickel films. *Applied Physics A: Materials Science and Processing*, **2009**, 96, 349-352 | 2.6 | 11 |
| 31 | 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 |
| 30 | Ultrafast thin-film laser-induced breakdown spectroscopy of doped oxides **2010**, 49, C67 | | 10 |

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| 29 | Zincblende-wurtzite phase transformation of ZnSe films by pulsed laser deposition with nitrogen doping. *Applied Physics Letters*, **2013**, 103, 082111 | 3.4 | 9 |
| 28 | High throughput optical characterization of alloy hydrogenation. *International Journal of Hydrogen Energy*, **2010**, 35, 7228-7231 | 6.7 | 9 |
| 27 | Strain relaxation of CdTe films growing on lattice-mismatched substrates. *Applied Physics A: Materials Science and Processing*, **2009**, 96, 379-384 | 2.6 | 8 |
| 26 | 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 |
| 25 | Strain-induced electronic energy changes in multilayered InGaAs□GaAs quantum wire structures. *Journal of Applied Physics*, **2007**, 101, 044305 | 2.5 | 7 |
| 24 | High-Throughput Multi-Plume Pulsed-Laser Deposition for Materials Exploration and Optimization. *Engineering*, **2015**, 1, 367-371 | 9.7 | 6 |
| 23 | Phosphine oxide-functionalized polyfluorene derivatives: Synthesis, photophysics, electrochemical properties, and electroluminescence performance. *Science China Chemistry*, **2011**, 54, 678-684 | 7.9 | 6 |
| 22 | 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 |
| 21 | Experimental and theoretical studies on gadolinium doping in ZnTe. *Journal of Applied Physics*, **2008** , 103, 023711 | 2.5 | 6 |
| 20 | Thermal model of phase explosion for high-power laser ablation **2002**, | | 5 |
| 19 | Optimization of ZnSe film growth conditions for p-type doping. *Applied Physics A: Materials Science and Processing*, **2014**, 114, 347-350 | 2.6 | 4 |
| 18 | ZnO deposition on metal substrates: Relating fabrication, morphology, and wettability. *Journal of Applied Physics*, **2013**, 113, 184905 | 2.5 | 4 |
| 17 | Laser ablation of organic materials for discrimination of bacteria in an inorganic background **2009**, | | 4 |
| 16 | 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 |
| 15 | Enhancing Solar-Driven Water Splitting with Surface-Engineered Nanostructures. *Solar Rrl*, **2018**, 3, 1800285 | 7.8 | 4 |
| 14 | 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 |
| 13 | Optical energy conversion in crystalline nanowires **2002**, 4608, 225 | | 3 |
| 12 | Enhanced photocatalytic water splitting of TiO2 by decorating with facet-controlled Au nanocrystals. *Applied Physics Letters*, **2021**, 119, 143901 | 3.4 | 3 |

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| 11 | Recent Progress on Photocatalytic CO2 Reduction with Earth-abundant Single-atom Reactive Sites. *ChemNanoMat*, **2021**, 7, 873-880 | 3.5 | 3 |
| 10 | Nanosized BaSnO3 as Electron Transport Promoter Coupled with g-C3N4 toward Enhanced Photocatalytic H2 Production. *Advanced Sustainable Systems*, **2021**, 5, 2100138 | 5.9 | 3 |
| 9 | Trap-Assisted Charge Injection into Large Bandgap Polymer Semiconductors. *Materials*, **2019**, 12, | 3.5 | 2 |
| 8 | Lateral and vertical ordered one-dimensional InGaAs/GaAs quantum structures. *Applied Physics A: Materials Science and Processing*, **2009**, 96, 307-315 | 2.6 | 2 |
| 7 | Surface Modification of □Fe2O3 Nanorod Array Photoanodes for Improved Light-Induced Water Splitting. *Materials Research Society Symposia Proceedings*, **2011**, 1326, 1 | | 1 |
| 6 | 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 |
| 5 | Band structure engineering of ZnO 1-x Se x alloys **2010**, | | 1 |
| 4 | Plasma Development During Picosecond Laser Processing of Electronic Materials. *Journal of Heat Transfer*, **2000**, 122, 424-424 | 1.8 | 1 |
| 3 | Where Am I? SLAM for Mobile Machines on a Smart Working Site. *Vehicles*, **2022**, 4, 529-552 | 1.5 | 0 |
| 2 | Temperature dependence of Optical Transitions of One Dimensional InGaAs/GaAs Quantum Structures. *Materials Research Society Symposia Proceedings*, **2006**, 959, 1 | | |
| 1 | Strategies of Nanoscale Semiconductor Lasers. *Nanostructure Science and Technology*, **2007**, 105-169 | 0.9 | |