Matthias H Richter

List of Publications by Year
in descending order

43 papers	1,686 citations	361413 20 h-index	276875 41 g-index
44 all docs	44 docs citations	44 times ranked	2578 citing authors

#	Article	IF	Citations
1	High Throughput Discovery of Complex Metal Oxide Electrocatalysts for the Oxygen Reduction Reaction. Electrocatalysis, 2022, 13, 1-10.	3.0	7
2	Enabling Modular Autonomous Feedbackâ€Loops in Materials Science through Hierarchical Experimental Laboratory Automation and Orchestration. Advanced Materials Interfaces, 2022, 9, 2101987.	3.7	23
3	Stability and Activity of Cobalt Antimonate for Oxygen Reduction in Strong Acid. ACS Energy Letters, 2022, 7, 993-1000.	17.4	21
4	Molecular Coatings Improve the Selectivity and Durability of CO₂ Reduction Chalcogenide Photocathodes. ACS Energy Letters, 2022, 7, 1195-1201.	17.4	6
5	Materials structureâ€“property factorization for identification of synergistic phase interactions in complex solar fuels photoanodes. Npj Computational Materials, 2022, 8, .	8.7	3
6	Addressing solar photochemistry durability with an amorphous nickel antimonate photoanode. Cell Reports Physical Science, 2022, 3, 100959.	5.6	6
7	X-ray Photoelectron Spectroscopy and Resonant X-ray Spectroscopy Investigations of Interactions between Thin Metal Catalyst Films and Amorphous Titanium Dioxide Photoelectrode Protection Layers. Chemistry of Materials, 2021, 33, 1265-1275.	6.7	15
8	Assessing Effects of Near-Field Synergistic Light Absorption on Ordered Inorganic Phototropic Growth. Journal of the American Chemical Society, 2021, 143, 3693-3696.	13.7	5
9	Unassisted Highly Selective Gas-Phase CO₂ Reduction with a Plasmonic Au/p-GaN Photocatalyst Using H₂O as an Electron Donor. ACS Energy Letters, 2021, 6, 1849-1856.	17.4	49
10	Dynamic thermal behavior of polycrystalline LaB6 hollow cathodes. Journal of Applied Physics, 2021, 130, .	2.5	6
11	Origin of the Electrical Barrier in Electrolessly Deposited Platinum Nanoparticles on p-Si Surfaces. Journal of Physical Chemistry C, 2021, 125, 17660-17670.	3.1	6
12	Band Edge Energy Tuning through Electronic Character Hybridization in Ternary Metal Vanadates. Chemistry of Materials, 2021, 33, 7242-7253.	6.7	7
13	Discovery of complex oxides via automated experiments and data science. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	21
14	Investigations of the stability of etched or platinized p-InP(100) photocathodes for solar-driven hydrogen evolution in acidic or alkaline aqueous electrolytes. Energy and Environmental Science, 2021, 14, 6007-6020.	30.8	33
15	Investigations of the stability of GaAs for photoelectrochemical H₂ evolution in acidic or alkaline aqueous electrolytes. Journal of Materials Chemistry A, 2021, 9, 22958-22972.	10.3	9
16	CO₂ Reduction to CO with 19% Efficiency in a Solar-Driven Gas Diffusion Electrode Flow Cell under Outdoor Solar Illumination. ACS Energy Letters, 2020, 5, 470-476.	17.4	117
17	Band Edge Tailoring in Few-Layer Two-Dimensional Molybdenum Sulfide/Selenide Alloys. Journal of Physical Chemistry C, 2020, 124, 22893-22902.	3.1	9
18	Genesis and Propagation of Fractal Structures During Photoelectrochemical Etching of n-Silicon. ACS Applied Materials & Interfaces, 2020, 12, 17018-17028.	8.0	4

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19	Si Microwire-Array Photocathodes Decorated with Cu Allow CO₂ Reduction with Minimal Parasitic Absorption of Sunlight. ACS Energy Letters, 2020, 5, 2528-2534.	17.4	33
20	Combinatorial screening yields discovery of 29 metal oxide photoanodes for solar fuel generation. Journal of Materials Chemistry A, 2020, 8, 4239-4243.	10.3	13
21	Characterization of Electronic Transport through Amorphous TiO₂ Produced by Atomic Layer Deposition. Journal of Physical Chemistry C, 2019, 123, 20116-20129.	3.1	68
22	Experimental Methods for Efficient Solar Hydrogen Production in Microgravity Environment. Journal of Visualized Experiments, 2019, , .	0.3	0
23	The sensitivity of Cu for electrochemical carbon dioxide reduction to hydrocarbons as revealed by high throughput experiments. Journal of Materials Chemistry A, 2019, 7, 26785-26790.	10.3	10
24	Electrochemical Water Oxidation in Acidic Solution Using Titanium Diboride (TiB₂) Catalyst. ChemCatChem, 2019, 11, 3877-3881.	3.7	24
25	Advancing semiconductorâ€“electrocatalyst systems: application of surface transformation films and nanosphere lithography. Faraday Discussions, 2018, 208, 523-535.	3.2	2
26	Rutile Alloys in the Mnâ€“Sbâ€“O System Stabilize Mn³⁺ To Enable Oxygen Evolution in Strong Acid. ACS Catalysis, 2018, 8, 10938-10948.	11.2	97
27	Biomimetic Z-scheme photocatalyst with a tandem solid-state electron flow catalyzing H₂ evolution. Journal of Materials Chemistry A, 2018, 6, 15668-15674.	10.3	155
28	Monolithic Photoelectrochemical Device for Direct Water Splitting with 19% Efficiency. ACS Energy Letters, 2018, 3, 1795-1800.	17.4	321
29	Efficient solar hydrogen generation in microgravity environment. Nature Communications, 2018, 9, 2527.	12.8	45
30	Reduction of Aqueous CO₂ to 1-Propanol at MoS₂ Electrodes. Chemistry of Materials, 2018, 30, 4902-4908.	6.7	73
31	Operando X-ray photoelectron spectroscopic investigations of the electrochemical double layer at Ir/KOH(aq) interfaces. Journal of Electron Spectroscopy and Related Phenomena, 2017, 221, 99-105.	1.7	10
32	Discovery and Characterization of a Pourbaix-Stable, 1.8 eV Direct Gap Bismuth Manganate Photoanode. Chemistry of Materials, 2017, 29, 10027-10036.	6.7	17
33	Operando Analyses of Solar Fuels Light Absorbers and Catalysts. Electrochimica Acta, 2016, 211, 711-719.	5.2	23
34	An Electrochemical, Microtopographical and Ambient Pressure X-Ray Photoelectron Spectroscopic Investigation of Si/TiO₂/Ni/Electrolyte Interfaces. Journal of the Electrochemical Society, 2016, 163, H139-H146.	2.9	24
35	Electrical, Photoelectrochemical, and Photoelectron Spectroscopic Investigation of the Interfacial Transport and Energetics of Amorphous TiO₂/Si Heterojunctions. Journal of Physical Chemistry C, 2016, 120, 3117-3129.	3.1	77
36	Protection of inorganic semiconductors for sustained, efficient photoelectrochemical water oxidation. Catalysis Today, 2016, 262, 11-23.	4.4	87

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37	Direct observation of the energetics at a semiconductor/liquid junction by operando X-ray photoelectron spectroscopy. Energy and Environmental Science, 2015, 8, 2409-2416.	30.8	149
38	Multiple Auger processes in Graphene. Journal of Electron Spectroscopy and Related Phenomena, 2014, 192, 1-6.	1.7	11
39	Resonant photoemission at the O1s threshold to characterize In2O3 single crystals. Thin Solid Films, 2014, 555, 53-56.	1.8	16
40	Interlayer-exciton mediated three-hole-Auger-decay in the Ï€âž-band of highly oriented pyrolytic graphite. Physica E: Low-Dimensional Systems and Nanostructures, 2014, 56, 441-446.	2.7	7
41	Interlayer formation of diamond-like carbon coatings on industrial polyethylene: Thickness dependent surface characterization by SEM, AFM and NEXAFS. Applied Surface Science, 2013, 271, 381-389.	6.1	38
42	Valence and Conduction Band States of PCBM as Probed by Photoelectron Spectroscopy at Resonant Excitation. BioNanoScience, 2012, 2, 59-65.	3.5	25
43	Fullerenol as Probed by Synchrotron X-ray Photoemission and Absorption Spectroscopy. BioNanoScience, 2011, 1, 218-223.	3.5	14