

Matthias H Richter

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/7224550/publications.pdf>

Version: 2024-02-01

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	Monolithic Photoelectrochemical Device for Direct Water Splitting with 19% Efficiency. ACS Energy Letters, 2018, 3, 1795-1800.	17.4	321
2	Biomimetic Z-scheme photocatalyst with a tandem solid-state electron flow catalyzing H ₂ evolution. Journal of Materials Chemistry A, 2018, 6, 15668-15674.	10.3	155
3	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
4	CO ₂ 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
5	Rutile Alloys in the Mn–Sb–O System Stabilize Mn ³⁺ To Enable Oxygen Evolution in Strong Acid. ACS Catalysis, 2018, 8, 10938-10948.	11.2	97
6	Protection of inorganic semiconductors for sustained, efficient photoelectrochemical water oxidation. Catalysis Today, 2016, 262, 11-23.	4.4	87
7	Electrical, Photoelectrochemical, and Photoelectron Spectroscopic Investigation of the Interfacial Transport and Energetics of Amorphous TiO ₂ /Si Heterojunctions. Journal of Physical Chemistry C, 2016, 120, 3117-3129.	3.1	77
8	Reduction of Aqueous CO ₂ to 1-Propanol at MoS ₂ Electrodes. Chemistry of Materials, 2018, 30, 4902-4908.	6.7	73
9	Characterization of Electronic Transport through Amorphous TiO ₂ Produced by Atomic Layer Deposition. Journal of Physical Chemistry C, 2019, 123, 20116-20129.	3.1	68
10	Unassisted Highly Selective Gas-Phase CO ₂ Reduction with a Plasmonic Au/p-GaN Photocatalyst Using H ₂ O as an Electron Donor. ACS Energy Letters, 2021, 6, 1849-1856.	17.4	49
11	Efficient solar hydrogen generation in microgravity environment. Nature Communications, 2018, 9, 2527.	12.8	45
12	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
13	Si Microwire-Array Photocathodes Decorated with Cu Allow CO ₂ Reduction with Minimal Parasitic Absorption of Sunlight. ACS Energy Letters, 2020, 5, 2528-2534.	17.4	33
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	Valence and Conduction Band States of PCBM as Probed by Photoelectron Spectroscopy at Resonant Excitation. BioNanoScience, 2012, 2, 59-65.	3.5	25
16	An Electrochemical, Microtopographical and Ambient Pressure X-Ray Photoelectron Spectroscopic Investigation of Si/TiO ₂ /Ni/Electrolyte Interfaces. Journal of the Electrochemical Society, 2016, 163, H139-H146.	2.9	24
17	Electrochemical Water Oxidation in Acidic Solution Using Titanium Diboride (TiB ₂) Catalyst. ChemCatChem, 2019, 11, 3877-3881.	3.7	24
18	Operando Analyses of Solar Fuels Light Absorbers and Catalysts. Electrochimica Acta, 2016, 211, 711-719.	5.2	23

19	Enabling Modular Autonomous Feedback Loops in Materials Science through Hierarchical Experimental Laboratory Automation and Orchestration. Advanced Materials Interfaces, 2022, 9, 2101987.	3.7	23
20	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
21	Stability and Activity of Cobalt Antimonate for Oxygen Reduction in Strong Acid. ACS Energy Letters, 2022, 7, 993-1000.	17.4	21
22	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
23	Resonant photoemission at the O1s threshold to characterize In2O3 single crystals. Thin Solid Films, 2014, 555, 53-56.	1.8	16
24	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
25	Fullerenol as Probed by Synchrotron X-ray Photoemission and Absorption Spectroscopy. BioNanoScience, 2011, 1, 218-223.	3.5	14
26	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
27	Multiple Auger processes in Graphene. Journal of Electron Spectroscopy and Related Phenomena, 2014, 192, 1-6.	1.7	11
28	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
29	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
30	Band Edge Tailoring in Few-Layer Two-Dimensional Molybdenum Sulfide/Selenide Alloys. Journal of Physical Chemistry C, 2020, 124, 22893-22902.	3.1	9
31	Investigations of the stability of GaAs for photoelectrochemical H ₂ evolution in acidic or alkaline aqueous electrolytes. Journal of Materials Chemistry A, 2021, 9, 22958-22972.	10.3	9
32	Interlayer-exciton mediated three-hole-Auger-decay in the ĤCaž-band of highly oriented pyrolytic graphite. Physica E: Low-Dimensional Systems and Nanostructures, 2014, 56, 441-446.	2.7	7
33	Band Edge Energy Tuning through Electronic Character Hybridization in Ternary Metal Vanadates. Chemistry of Materials, 2021, 33, 7242-7253.	6.7	7
34	High Throughput Discovery of Complex Metal Oxide Electrocatalysts for the Oxygen Reduction Reaction. Electrocatalysis, 2022, 13, 1-10.	3.0	7
35	Dynamic thermal behavior of polycrystalline LaB6 hollow cathodes. Journal of Applied Physics, 2021, 130, .	2.5	6

#	ARTICLE	IF	CITATIONS
37	Molecular Coatings Improve the Selectivity and Durability of CO ₂ Reduction Chalcogenide Photocathodes. ACS Energy Letters, 2022, 7, 1195-1201.	17.4	6
38	Addressing solar photochemistry durability with an amorphous nickel antimonate photoanode. Cell Reports Physical Science, 2022, 3, 100959.	5.6	6
39	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
40	Genesis and Propagation of Fractal Structures During Photoelectrochemical Etching of n-Silicon. ACS Applied Materials & Interfaces, 2020, 12, 17018-17028.	8.0	4
41	Materials structure–property factorization for identification of synergistic phase interactions in complex solar fuels photoanodes. Npj Computational Materials, 2022, 8, .	8.7	3
42	Advancing semiconductor–electrocatalyst systems: application of surface transformation films and nanosphere lithography. Faraday Discussions, 2018, 208, 523-535.	3.2	2
43	Experimental Methods for Efficient Solar Hydrogen Production in Microgravity Environment. Journal of Visualized Experiments, 2019, , .	0.3	0