Thomas Moehl

List of Publications by Year
in descending order

81 papers	18,313 citations	46918 47 h-index	58464 82 g-index
82 all docs	82 docs citations	82 times ranked	19044 citing authors

#	Article	IF	Citations
1	Lead Iodide Perovskite Sensitized All-Solid-State Submicron Thin Film Mesoscopic Solar Cell with Efficiency Exceeding 9%. Scientific Reports, 2012, 2, 591.	1.6	6,763
2	Understanding the rate-dependent Jâ€“V hysteresis, slow time component, and aging in CH₃NH₃PbI₃ perovskite solar cells: the role of a compensated electric field. Energy and Environmental Science, 2015, 8, 995-1004.	15.6	1,150
3	Effect of Annealing Temperature on Film Morphology of Organicâ€“Inorganic Hybrid Pervoskite Solidâ€State Solar Cells. Advanced Functional Materials, 2014, 24, 3250-3258.	7.8	850
4	Passivating surface states on water splitting hematite photoanodes with alumina overlayers. Chemical Science, 2011, 2, 737-743.	3.7	763
5	Impedance Spectroscopic Analysis of Lead Iodide Perovskite-Sensitized Solid-State Solar Cells. ACS Nano, 2014, 8, 362-373.	7.3	663
6	Unravelling the mechanism of photoinduced charge transfer processes in lead iodide perovskite solar cells. Nature Photonics, 2014, 8, 250-255.	15.6	648
7	Ionic polarization-induced currentâ€“voltage hysteresis in CH3NH3PbX3 perovskite solar cells. Nature Communications, 2016, 7, 10334.	5.8	602
8	A cobalt complex redox shuttle for dye-sensitized solar cells with high open-circuit potentials. Nature Communications, 2012, 3, 631.	5.8	554
9	Influence of the Donor Size in Dâˆ'Ï€â€“A Organic Dyes for Dye-Sensitized Solar Cells. Journal of the American Chemical Society, 2014, 136, 5722-5730.	6.6	417
10	Cyclopentadithiophene Bridged Donorâ€“Acceptor Dyes Achieve High Power Conversion Efficiencies in Dyeâ€Sensitized Solar Cells Based on the <i>tris</i>â€Cobalt Bipyridine Redox Couple. ChemSusChem, 2011, 4, 591-594.	3.6	327
11	An Organic D-Ï€-A Dye for Record Efficiency Solid-State Sensitized Heterojunction Solar Cells. Nano Letters, 2011, 11, 1452-1456.	4.5	322
12	Nanowire Perovskite Solar Cell. Nano Letters, 2015, 15, 2120-2126.	4.5	321
13	Revealing and accelerating slow electron transport in amorphous molybdenum sulphide particles for hydrogen evolution reaction. Chemical Communications, 2013, 49, 8985.	2.2	279
14	Covalent Immobilization of a Molecular Catalyst on Cu₂O Photocathodes for CO₂ Reduction. Journal of the American Chemical Society, 2016, 138, 1938-1946.	6.6	272
15	Efficient screen printed perovskite solar cells based on mesoscopic TiO2/Al2O3/NiO/carbon architecture. Nano Energy, 2015, 17, 171-179.	8.2	261
16	Factors determining the photovoltaic performance of a CdSe quantum dot sensitized solar cell: the role of the linker molecule and of the counter electrode. Nanotechnology, 2008, 19, 424007.	1.3	237
17	Electrochemical Characterization of TiO₂ Blocking Layers for Dye-Sensitized Solar Cells. Journal of Physical Chemistry C, 2014, 118, 16408-16418.	1.5	201
18	Yttrium-substituted nanocrystalline TiO₂photoanodes for perovskite based heterojunction solar cells. Nanoscale, 2014, 6, 1508-1514.	2.8	162

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19	High-Efficiency Dye-Sensitized Solar Cell with Three-Dimensional Photoanode. Nano Letters, 2011, 11, 4579-4584.	4.5	143
20	Blue-Coloured Highly Efficient Dye-Sensitized Solar Cells by Implementing the Diketopyrrolopyrrole Chromophore. Scientific Reports, 2013, 3, 2446.	1.6	143
21	Efficient and selective carbon dioxide reduction on low cost protected Cu₂O photocathodes using a molecular catalyst. Energy and Environmental Science, 2015, 8, 855-861.	15.6	142
22	Stabilized Solar Hydrogen Production with CuO/CdS Heterojunction Thin Film Photocathodes. Chemistry of Materials, 2017, 29, 1735-1743.	3.2	140
23	Photovoltaic behaviour of lead methylammonium triiodide perovskite solar cells down to 80 K. Journal of Materials Chemistry A, 2015, 3, 11762-11767.	5.2	135
24	Light Energy Conversion by Mesoscopic PbS Quantum Dots/TiO₂ Heterojunction Solar Cells. ACS Nano, 2012, 6, 3092-3099.	7.3	132
25	Working Principles of Perovskite Photodetectors: Analyzing the Interplay Between Photoconductivity and Voltageâ€Driven Energyâ€Level Alignment. Advanced Functional Materials, 2015, 25, 6936-6947.	7.8	129
26	Temperature Dependence of Transport Properties of Spiro-MeOTAD as a Hole Transport Material in Solid-State Dye-Sensitized Solar Cells. ACS Nano, 2013, 7, 2292-2301.	7.3	107
27	High-Efficiency Solid-State Dye-Sensitized Solar Cells: Fast Charge Extraction through Self-Assembled 3D Fibrous Network of Crystalline TiO₂ Nanowires. ACS Nano, 2010, 4, 7644-7650.	7.3	105
28	Strong Photocurrent Amplification in Perovskite Solar Cells with a Porous TiO₂ Blocking Layer under Reverse Bias. Journal of Physical Chemistry Letters, 2014, 5, 3931-3936.	2.1	104
29	New pyrido[3,4-b]pyrazine-based sensitizers for efficient and stable dye-sensitized solar cells. Chemical Science, 2014, 5, 206-214.	3.7	102
30	Energy and Hole Transfer between Dyes Attached to Titania in Cosensitized Dye-Sensitized Solar Cells. Journal of the American Chemical Society, 2011, 133, 10662-10667.	6.6	96
31	Extended Light Harvesting with Dual Cu₂Oâ€Based Photocathodes for High Efficiency Water Splitting. Advanced Energy Materials, 2018, 8, 1702323.	10.2	93
32	Effects of ZnO film growth route and nanostructure on electron transport and recombination in dye-sensitized solar cells. Journal of Materials Chemistry A, 2013, 1, 2079-2088.	5.2	90
33	Effect of Interfacial Engineering in Solidâ€State Nanostructured Sb₂S₃ Heterojunction Solar Cells. Advanced Energy Materials, 2013, 3, 29-33.	10.2	85
34	Investigation of (Leaky) ALD TiO₂ Protection Layers for Water-Splitting Photoelectrodes. ACS Applied Materials & Interfaces, 2017, 9, 43614-43622.	4.0	84
35	Photocorrosion-resistant Sb₂Se₃photocathodes with earth abundant MoS_xhydrogen evolution catalyst. Journal of Materials Chemistry A, 2017, 5, 23139-23145.	5.2	83
36	Stable and Efficient Perovskite Solar Cells Based on Titania Nanotube Arrays. Small, 2015, 11, 5533-5539.	5.2	80

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37	Ligand Engineering for the Efficient Dye-Sensitized Solar Cells with Ruthenium Sensitizers and Cobalt Electrolytes. Inorganic Chemistry, 2016, 55, 6653-6659.	1.9	80
38	Understanding the Impact of Bromide on the Photovoltaic Performance of CH₃NH₃PbI₃ Solar Cells. Advanced Materials, 2015, 27, 7221-7228.	11.1	73
39	Influence of Donor Groups of Organic Dâ€"Ï€â€"A Dyes on Open-Circuit Voltage in Solid-State Dye-Sensitized Solar Cells. Journal of Physical Chemistry C, 2012, 116, 1572-1578.	1.5	69
40	Molecular Engineering of Organic Dyes for Improved Recombination Lifetime in Solid-State Dye-Sensitized Solar Cells. Chemistry of Materials, 2013, 25, 1519-1525.	3.2	66
41	Photovoltaic and Amplified Spontaneous Emission Studies of Highâ€Quality Formamidinium Lead Bromide Perovskite Films. Advanced Functional Materials, 2016, 26, 2846-2854.	7.8	66
42	Mesoporous TiO₂ Beads Offer Improved Mass Transport for Cobaltâ€Based Redox Couples Leading to High Efficiency Dyeâ€Sensitized Solar Cells. Advanced Energy Materials, 2014, 4, 1400168.	10.2	65
43	Loading of mesoporous titania films by CH₃NH₃PbI₃ perovskite, single step <i>vs.</i> sequential deposition. Chemical Communications, 2015, 51, 4603-4606.	2.2	64
44	Investigation of electrodeposited cobalt sulphide counter electrodes and their application in next-generation dye sensitized solar cells featuring organic dyes and cobalt-based redox electrolytes. Journal of Power Sources, 2015, 275, 80-89.	4.0	64
45	Porphyrin Sensitizers Bearing a Pyridine-Type Anchoring Group for Dye-Sensitized Solar Cells. ACS Applied Materials & Interfaces, 2015, 7, 14975-14982.	4.0	60
46	Tridentate cobalt complexes as alternative redox couples for high-efficiency dye-sensitized solar cells. Chemical Science, 2013, 4, 454-459.	3.7	56
47	A durable SWCNT/PET polymer foil based metal free counter electrode for flexible dye-sensitized solar cells. Journal of Materials Chemistry A, 2014, 2, 19609-19615.	5.2	53
48	Probing the solidâ€"liquid interface with tender x rays: A new ambient-pressure x-ray photoelectron spectroscopy endstation at the Swiss Light Source. Review of Scientific Instruments, 2020, 91, 023103.	0.6	45
49	Stable and tunable phosphonic acid dipole layer for band edge engineering of photoelectrochemical and photovoltaic heterojunction devices. Energy and Environmental Science, 2019, 12, 1901-1909.	15.6	41
50	4,9-Dihydro-4,4,9,9-tetrahexyl-<i>s</i>-indaceno[1,2-<i>b</i>:5,6-<i>b</i>â€²]dithiophene as a Ï€-Spacer of Donorâ€"Ï€â€"Acceptor Dye and Its Photovoltaic Performance with Liquid and Solid-State Dye-Sensitized Solar Cells. Organic Letters, 2014, 16, 106-109.	2.4	40
51	High Open-Circuit Voltages: Evidence for a Sensitizer-Induced TiO2 Conduction Band Shift in Ru(II)-Dye Sensitized Solar Cells. Chemistry of Materials, 2013, 25, 4497-4502.	3.2	37
52	Passivation of ZnO Nanowire Guests and 3D Inverse Opal Host Photoanodes for Dyeâ€Sensitized Solar Cells. Advanced Energy Materials, 2014, 4, 1400217.	10.2	37
53	Doping saturation in dye-sensitized solar cells based on ZnO:Ga nanostructured photoanodes. Electrochimica Acta, 2011, 56, 6503-6509.	2.6	36
54	Operando Analysis of Semiconductor Junctions in Multiâ€Layered Photocathodes for Solar Water Splitting by Impedance Spectroscopy. Advanced Energy Materials, 2021, 11, 2003569.	10.2	36

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55	Toward Higher Photovoltage: Effect of Blocking Layer on Cobalt Bipyridine Pyrazole Complexes as Redox Shuttle for Dye-Sensitized Solar Cells. Journal of Physical Chemistry C, 2014, 118, 16799-16805.	1.5	35
56	Sb₂S₃/TiO₂ Heterojunction Photocathodes: Band Alignment and Water Splitting Properties. Chemistry of Materials, 2020, 32, 7247-7253.	3.2	34
57	Molecular gelation of ionic liquidâ€“sulfolane mixtures, a solid electrolyte for high performance dye-sensitized solar cells. Journal of Materials Chemistry A, 2014, 2, 15972-15977.	5.2	33
58	Robust High-performance Dye-sensitized Solar Cells Based on Ionic Liquid-sulfolane Composite Electrolytes. Scientific Reports, 2016, 5, 18158.	1.6	29
59	Relaxation of Photogenerated Carriers in P3HT:PCBM Organic Blends. ChemSusChem, 2009, 2, 314-320.	3.6	27
60	Tandem Cuprous Oxide/Silicon Microwire Hydrogen-Evolving Photocathode with Photovoltage Exceeding 1.3 V. ACS Energy Letters, 2019, 4, 2287-2294.	8.8	25
61	Thiadiazolo[3,4-c]pyridine Acceptor Based Blue Sensitizers for High Efficiency Dye-Sensitized Solar Cells. Journal of Physical Chemistry C, 2014, 118, 17090-17099.	1.5	24
62	Influence of cations of the electrolyte on the performance and stability of dye sensitized solar cells. Journal of Materials Chemistry, 2012, 22, 24424.	6.7	23
63	Acetylene-bridged dyes with high open circuit potential for dye-sensitized solar cells. RSC Advances, 2014, 4, 35251.	1.7	23
64	A New Heteroleptic Ruthenium Sensitizer for Transparent Dyeâ€Sensitized Solar Cells. Advanced Energy Materials, 2012, 2, 1503-1509.	10.2	22
65	<i>Operando</i> deconvolution of photovoltaic and electrocatalytic performance in ALD TiO₂ protected water splitting photocathodes. Chemical Science, 2018, 9, 6062-6067.	3.7	22
66	Longâ€Range Ï€â€Conjugation in Phenothiazineâ€containing Donorâ€“Acceptor Dyes for Application in Dyeâ€Sensitized Solar Cells. ChemSusChem, 2015, 8, 3859-3868.	3.6	21
67	Tuning the selectivity of biomass oxidation over oxygen evolution on NiOâ€“OH electrodes. Green Chemistry, 2021, 23, 8061-8068.	4.6	20
68	Crystal orientation-dependent etching and trapping in thermally-oxidised Cu₂O photocathodes for water splitting. Energy and Environmental Science, 2022, 15, 2002-2010.	15.6	20
69	Triarylamine-based hydrido-carboxylate rhenium(i) complexes as photosensitizers for dye-sensitized solar cells. Physical Chemistry Chemical Physics, 2019, 21, 7534-7543.	1.3	19
70	Sulfur Treatment Passivates Bulk Defects in Sb₂Se₃ Photocathodes for Water Splitting. Advanced Functional Materials, 2022, 32, .	7.8	18
71	Unraveling the Dual Character of Sulfur Atoms on Sensitizers in Dye-Sensitized Solar Cells. ACS Applied Materials & Interfaces, 2016, 8, 26827-26833.	4.0	16
72	Consistency of photoelectrochemistry and photoelectrochemical microwave reflection demonstrated with p- and n-type layered semiconductors like MoS2. Journal of Electroanalytical Chemistry, 2007, 609, 31-41.	1.9	13

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73	Electron Kinetics in Dye Sensitized Solar Cells Employing Anatase with (101) and (001) Facets. Electrochimica Acta, 2015, 160, 296-305.	2.6	13
74	Preparation and characterization of high-entropy alloy <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mrow><mml:mo>(</mml:mo><mml:mi>TaNb</m superconducting films. Physical Review Research, 2020, 2, .	1.3	13
75	Resistance-based analysis of limiting interfaces in multilayer water splitting photocathodes by impedance spectroscopy. Sustainable Energy and Fuels, 2019, 3, 2067-2075.	2.5	12
76	<i>Operando</i>electrochemical study of charge carrier processes in water splitting photoanodes protected by atomic layer deposited TiO₂. Sustainable Energy and Fuels, 2019, 3, 3085-3092.	2.5	11
77	Photoelectrochemical studies on the n-MoS2â€"Cysteine interaction. Journal of Applied Electrochemistry, 2006, 36, 1341-1346.	1.5	10
78	Optoelectronic properties of SnO2 / TiO2 junctions. Superlattices and Microstructures, 2006, 39, 376-380.	1.4	10
79	Dye Regeneration Dynamics by Electron Donors on Mesoscopic TiO₂ Films. Journal of Physical Chemistry C, 2014, 118, 3420-3425.	1.5	10
80	Effect of Interfacial Engineering in Solidâ€State Nanostructured Sb₂S₃ Heterojunction Solar Cells (Adv. Energy Mater. 1/2013). Advanced Energy Materials, 2013, 3, 28-28.	10.2	4
81	Co-adsorbing effect of bile acids containing bulky amide groups at 3Î²-position on the photovoltaic performance in dye-sensitized solar cells. Solar Energy, 2019, 189, 94-102.	2.9	4