Charles A Schmuttenmaer

List of Publications by Year
in descending order

100	8,150	66343	53230
papers	citations	42 h-index	85 g-index

102	102	102	9887
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Ultrafast terahertz spectroscopy provides insight into charge transfer efficiency and dynamics in artificial photosynthesis. Photosynthesis Research, 2022, 151, 145-153.	2.9	2
2	Interrogating Light-initiated Dynamics in Metalâ€“Organic Frameworks with Time-resolved Spectroscopy. Chemical Reviews, 2022, 122, 132-166.	47.7	22
3	Tuning the Conduction Band for Interfacial Electron Transfer: Dye-Sensitized Sn_xTi_{1â€“x}O₂ Photoanodes for Water Splitting. ACS Applied Energy Materials, 2021, 4, 4695-4703.	5.1	4
4	Nelly: A User-Friendly and Open-Source Implementation of Tree-Based Complex Refractive Index Analysis for Terahertz Spectroscopy. Analytical Chemistry, 2021, 93, 11243-11250.	6.5	15
5	Nanotechnology for catalysis and solar energy conversion. Nanotechnology, 2021, 32, 042003.	2.6	44
6	Towards Operando Electron Transfer Dynamics Measured Using Time-Resolved Terahertz Spectroelectrochemistry. , 2021, , .		0
7	THz-TDS and TRTS of Metal Organic Frameworks and 2D Materials. , 2021, , .		0
8	Photoinduced Charge Transport in Conductive Metal Organic Frameworks. , 2021, , .		0
9	Metal Dopants Increase THz-Photoconductivity in g-C3N4. , 2021, , .		0
10	Nelly: An Open-Source Package for Complex Refractive Index Extraction for Terahertz Spectroscopy on Layered Samples. , 2021, , .		0
11	Single Copper Atoms Enhance Photoconductivity in g-C₃N₄. Journal of Physical Chemistry Letters, 2020, 11, 8873-8879.	4.6	25
12	Direct Evidence of Photoinduced Charge Transport Mechanism in 2D Conductive Metal Organic Frameworks. Journal of the American Chemical Society, 2020, 142, 21050-21058.	13.7	76
13	A conductive metalâ€“organic framework photoanode. Chemical Science, 2020, 11, 9593-9603.	7.4	16
14	Terahertz Spectroscopy of Emerging Materials. Journal of Physical Chemistry C, 2020, 124, 22335-22346.	3.1	55
15	Suspensions of Semiconducting Nanoparticles in Nafion for Transient Spectroscopy and Terahertz Photoconductivity Measurements. Analytical Chemistry, 2020, 92, 4187-4192.	6.5	7
16	Terahertz Spectroscopy and Density Functional Theory Investigation of the Dipeptide L-Carnosine. Journal of Infrared, Millimeter, and Terahertz Waves, 2020, 41, 1366-1377.	2.2	11
17	Influence of Dye Sensitizers on Charge Dynamics in SnO₂ Nanoparticles Probed with THz Spectroscopy. Journal of Physical Chemistry C, 2020, 124, 3482-3488.	3.1	9
18	Terahertz Time Domain Spectroscopy and Density Functional Theory Calculations of Peptides. , 2020, , .		1

#	Article	IF	Citations
19	THz Studies of Conductive Metal-Organic Frameworks. , 2020, , .		0
20	THz Conductivity in Metal Organic Frameworks (MOF). , 2019, , .		0
21	Terahertz-Conductivity in Biological Nanowire-Networks. , 2019, , .		0
22	Metalâ€“Organic Framework Photoconductivity via Time-Resolved Terahertz Spectroscopy. Journal of the American Chemical Society, 2019, 141, 9793-9797.	13.7	44
23	Terahertz Spectroscopy of Tetrameric Peptides. Journal of Physical Chemistry Letters, 2019, 10, 2624-2628.	4.6	39
24	Collaboration between experiment and theory in solar fuels research. Chemical Society Reviews, 2019, 48, 1865-1873.	38.1	17
25	Electronic Tuning of Metal Nanoparticles for Highly Efficient Photocatalytic Hydrogen Peroxide Production. ACS Catalysis, 2019, 9, 626-631.	11.2	84
26	Interfacial electron transfer in dye-sensitized mixed metal oxides for water splitting. , 2019, , .		1
27	Highly Active NiO Photocathodes for H₂O₂ Production Enabled via Outer-Sphere Electron Transfer. Journal of the American Chemical Society, 2018, 140, 4079-4084.	13.7	66
28	Direct Interfacial Electron Transfer from High-Potential Porphyrins into Semiconductor Surfaces: A Comparison of Linkers and Anchoring Groups. Journal of Physical Chemistry C, 2018, 122, 13529-13539.	3.1	31
29	A Terahertz-Transparent Electrochemical Cell for In Situ Terahertz Spectroelectrochemistry. Analytical Chemistry, 2018, 90, 4389-4396.	6.5	21
30	Exploring the solid state phase transition in <scp>dl</scp>-norvaline with terahertz spectroscopy. Physical Chemistry Chemical Physics, 2018, 20, 276-283.	2.8	26
31	Identifying Peptide Structures with THz Spectroscopy. , 2018, , .		1
32	Terahertz Conductivity in Proteins. , 2018, , .		0
33	Tutorial: An introduction to terahertz time domain spectroscopy (THz-TDS). Journal of Applied Physics, 2018, 124, .	2.5	333
34	Applicability of the thin-film approximation in terahertz photoconductivity measurements. Applied Physics Letters, 2018, 113, .	3.3	35
35	Single-Atom Pt Catalyst for Effective Câ€“F Bond Activation via Hydrodefluorination. ACS Catalysis, 2018, 8, 9353-9358.	11.2	70
36	Ultrafast proton-assisted tunneling through ZrO₂ in dye-sensitized SnO₂-core/ZrO₂-shell films. Chemical Communications, 2018, 54, 7971-7974.	4.1	5

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37	Terahertz Spectroscopy and Density Functional Theory Calculations of <scp>dl</scp>-Norleucine and <scp>dl</scp>-Methionine. Journal of Physical Chemistry A, 2018, 122, 5978-5982.	2.5	40
38	Frequency-Dependent Terahertz Transient Photoconductivity of Mesoporous SnO₂ Films. Journal of Physical Chemistry C, 2017, 121, 15949-15956.	3.1	24
39	Solvent Dependence of Lateral Charge Transfer in a Porphyrin Monolayer. ACS Energy Letters, 2017, 2, 168-173.	17.4	12
40	The 2017 terahertz science and technology roadmap. Journal Physics D: Applied Physics, 2017, 50, 043001.	2.8	1,160
41	Linker Length-Dependent Electron-Injection Dynamics of Trimesitylporphyrins on SnO₂ Films. Journal of Physical Chemistry C, 2017, 121, 22690-22699.	3.1	13
42	Optimization of Photoanodes for Photocatalytic Water Oxidation by Combining a Heterogenized Iridium Waterâ€Oxidation Catalyst with a Highâ€Potential Porphyrin Photosensitizer. ChemSusChem, 2017, 10, 4526-4534.	6.8	34
43	Temperature-resolved terahertz time domain spectroscopy to investigate solid state phase-transitions in amino acid crystals. , 2017, , .		1
44	Optimization of Terahertz Metamaterials for Near-Field Sensing of Chiral Substances. IEEE Transactions on Terahertz Science and Technology, 2017, 7, 755-764.	3.1	10
45	Optical pump â€" THz probe studies of size-dependent ultrafast charge carrier dynamics in WO<inf>3</inf> particles for photoelectrochemical cells. , 2016, , .		0
46	High-Potential Porphyrins Supported on SnO₂ and TiO₂ Surfaces for Photoelectrochemical Applications. Journal of Physical Chemistry C, 2016, 120, 28971-28982.	3.1	28
47	Photocurrent Enhancement from Solid-State Tripletâ€"Triplet Annihilation Upconversion of Low-Intensity, Low-Energy Photons. ACS Photonics, 2016, 3, 784-790.	6.6	68
48	Controlling the rectification properties of molecular junctions through moleculeâ€"electrode coupling. Nanoscale, 2016, 8, 16357-16362.	5.6	33
49	Rutile TiO₂ as an Anode Material for Water-Splitting Dye-Sensitized Photoelectrochemical Cells. ACS Energy Letters, 2016, 1, 603-606.	17.4	54
50	Dynamics of Electron Injection in SnO₂/TiO₂ Core/Shell Electrodes for Water-Splitting Dye-Sensitized Photoelectrochemical Cells. Journal of Physical Chemistry Letters, 2016, 7, 2930-2934.	4.6	56
51	Terahertz spectroscopic polarimetry of generalized anisotropic media composed of Archimedean spiral arrays: Experiments and simulations. Journal of Chemical Physics, 2016, 144, 174705.	3.0	11
52	Size-Dependent Ultrafast Charge Carrier Dynamics of WO₃ for Photoelectrochemical Cells. Journal of Physical Chemistry C, 2016, 120, 14926-14933.	3.1	35
53	Proton-Induced Trap States, Injection and Recombination Dynamics in Water-Splitting Dye-Sensitized Photoelectrochemical Cells. ACS Applied Materials & Interfaces, 2016, 8, 16727-16735.	8.0	35
54	Surface-Induced Deprotection of THP-Protected Hydroxamic Acids on Titanium Dioxide. Journal of Physical Chemistry C, 2016, 120, 12495-12502.	3.1	11

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55	Molecular design of light-harvesting photosensitizers: effect of varied linker conjugation on interfacial electron transfer. Physical Chemistry Chemical Physics, 2016, 18, 18678-18682.	2.8	21
56	Structureâ€“function relationships in single molecule rectification by N-phenylbenzamide derivatives. New Journal of Chemistry, 2016, 40, 7373-7378.	2.8	7
57	Ultrafast Electron Injection Dynamics of Photoanodes for Water-Splitting Dye-Sensitized Photoelectrochemical Cells. Journal of Physical Chemistry C, 2016, 120, 5940-5948.	3.1	48
58	Facet-Dependent Photoelectrochemical Performance of TiO₂ Nanostructures: An Experimental and Computational Study. Journal of the American Chemical Society, 2015, 137, 1520-1529.	13.7	242
59	A molecular catalyst for water oxidation that binds to metal oxide surfaces. Nature Communications, 2015, 6, 6469.	12.8	256
60	Functioning Photoelectrochemical Devices Studied with Time-Resolved Terahertz Spectroscopy. Journal of Physical Chemistry Letters, 2015, 6, 3257-3262.	4.6	24
61	Interfacial electron transfer in photoanodes based on phosphorus(v) porphyrin sensitizers co-deposited on SnO2 with the Ir(III)Cp* water oxidation precatalyst. Journal of Materials Chemistry A, 2015, 3, 3868-3879.	10.3	47
62	Electron Injection Dynamics in High-Potential Porphyrin Photoanodes. Accounts of Chemical Research, 2015, 48, 1423-1431.	15.6	37
63	Computational Design of Intrinsic Molecular Rectifiers Based on Asymmetric Functionalization of N-Phenylbenzamide. Journal of Chemical Theory and Computation, 2015, 11, 5888-5896.	5.3	34
64	Ultrafast Carrier Dynamics in Nanostructures for Solar Fuels. Annual Review of Physical Chemistry, 2014, 65, 423-447.	10.8	89
65	Linker Rectifiers for Covalent Attachment of Transitionâ€Metal Catalysts to Metalâ€Oxide Surfaces. ChemPhysChem, 2014, 15, 1138-1147.	2.1	20
66	Modular Assembly of High-Potential Zinc Porphyrin Photosensitizers Attached to TiO₂ with a Series of Anchoring Groups. Journal of Physical Chemistry C, 2013, 117, 14526-14533.	3.1	90
67	Electron Injection Dynamics from Photoexcited Porphyrin Dyes into SnO2 and TiO2 Nanoparticles. Journal of Physical Chemistry C, 2013, 117, 21662-21670.	3.1	54
68	Efficiency of Interfacial Electron Transfer from Zn-Porphyrin Dyes into TiO₂ Correlated to the Linker Single Molecule Conductance. Journal of Physical Chemistry C, 2013, 117, 24462-24470.	3.1	55
69	Plasmonic Enhancement of Dye-Sensitized Solar Cells Using Coreâ€“Shellâ€“Shell Nanostructures. Journal of Physical Chemistry C, 2013, 117, 927-934.	3.1	117
70	Hydroxamate Anchors for Improved Photoconversion in Dye-Sensitized Solar Cells. Inorganic Chemistry, 2013, 52, 6752-6764.	4.0	102
71	Intermolecular Vibrations in Hydrophobic Amino Acid Crystals: Experiments and Calculations. Journal of Physical Chemistry B, 2013, 117, 10444-10461.	2.6	73
72	Efficient measurement of broadband terahertz optical activity. Applied Physics Letters, 2012, 100, 241114.	3.3	31

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73	Light-driven water oxidation for solar fuels. Coordination Chemistry Reviews, 2012, 256, 2503-2520.	18.8	337
74	Bioinspired High-Potential Porphyrin Photoanodes. Journal of Physical Chemistry C, 2012, 116, 4892-4902.	3.1	69
75	Terahertz spectroscopy of enantiopure and racemic polycrystalline valine. Physical Chemistry Chemical Physics, 2011, 13, 11719.	2.8	70
76	Fluctuation-Induced Tunneling Conductivity in Nanoporous TiO₂ Thin Films. Journal of Physical Chemistry Letters, 2011, 2, 1931-1936.	4.6	17
77	A visible light water-splitting cell with a photoanode formed by codeposition of a high-potential porphyrin and an iridium water-oxidation catalyst. Energy and Environmental Science, 2011, 4, 2389.	30.8	257
78	Terahertz Spectroscopy of Histidine Enantiomers and Polymorphs. Journal of Infrared, Millimeter, and Terahertz Waves, 2011, 32, 691-698.	2.2	32
79	Exciton-like trap states limit electron mobility in TiO2 nanotubes. Nature Nanotechnology, 2010, 5, 769-772.	31.5	237
80	Water-stable, hydroxamate anchors for functionalization of TiO2 surfaces with ultrafast interfacial electron transfer. Energy and Environmental Science, 2010, 3, 917.	30.8	99
81	Carrier dynamics in bulk ZnO. I. Intrinsic conductivity measured by terahertz time-domain spectroscopy. Physical Review B, 2009, 80, .	3.2	19
82	Synergistic effect between anatase and rutile TiO2 nanoparticles in dye-sensitized solar cells. Dalton Transactions, 2009, , 10078.	3.3	196
83	Carrier dynamics in bulk ZnO. II. Transient photoconductivity measured by time-resolved terahertz spectroscopy. Physical Review B, 2009, 80, .	3.2	17
84	Hydroxamate anchors for water-stable attachment to TiO2 nanoparticles. Energy and Environmental Science, 2009, 2, 1173.	30.8	91
85	Acetylacetonate Anchors for Robust Functionalization of TiO₂Nanoparticles with Mn(II)â^'Terpyridine Complexes. Journal of the American Chemical Society, 2008, 130, 14329-14338.	13.7	151
86	Ultrafast Photooxidation of Mn(II)â^'Terpyridine Complexes Covalently Attached to TiO₂ Nanoparticles. Journal of Physical Chemistry C, 2007, 111, 11982-11990.	3.1	82
87	Antenna-Coupled Niobium Bolometers for Terahertz Spectroscopy. IEEE Transactions on Applied Superconductivity, 2007, 17, 412-415.	1.7	24
88	Conductivity of ZnO Nanowires, Nanoparticles, and Thin Films Using Time-Resolved Terahertz Spectroscopyâ€. Journal of Physical Chemistry B, 2006, 110, 25229-25239.	2.6	372
89	Exploring Dynamics in the Far-Infrared with Terahertz Spectroscopy. Chemical Reviews, 2004, 104, 1759-1780.	47.7	576
90	A New Method for Measuring Intramolecular Charge Transfer. Science Progress, 2002, 85, 175-197.	1.9	1

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91	Carrier Localization and Cooling in Dye-Sensitized Nanocrystalline Titanium Dioxide. Journal of Physical Chemistry B, 2002, 106, 11716-11719.	2.6	219
92	Size-Dependent Photoconductivity in CdSe Nanoparticles as Measured by Time-Resolved Terahertz Spectroscopy. Nano Letters, 2002, 2, 983-987.	9.1	135
93	Subpicosecond carrier dynamics in low-temperature grown GaAs as measured by time-resolved terahertz spectroscopy. Journal of Applied Physics, 2001, 90, 5915-5923.	2.5	209
94	Using the finite-difference time-domain pulse propagation method to simulate time-resolved THz experiments. Journal of Chemical Physics, 2001, 114, 2903-2909.	3.0	56
95	Structure and dynamics of nonaqueous mixtures of dipolar liquids. II. Molecular dynamics simulations. Journal of Chemical Physics, 2000, 113, 3249-3260.	3.0	51
96	Spectroscopy and dynamics of mixtures of water with acetone, acetonitrile, and methanol. Journal of Chemical Physics, 2000, 113, 11222-11236.	3.0	198
97	Transient photoconductivity in GaAs as measured by time-resolved terahertz spectroscopy. Physical Review B, 2000, 62, 15764-15777.	3.2	460
98	Structure and dynamics of nonaqueous mixtures of dipolar liquids. I. Infrared and far-infrared spectroscopy. Journal of Chemical Physics, 2000, 113, 3243-3248.	3.0	55
99	A DIRECT MEASUREMENT OF INTERMOLECULAR SOLVATION DYNAMICS USING TIME-RESOLVED THZ SPECTROSCOPY (TRTS). , 2000, , .		0
100	Theory for determination of the low-frequency time-dependent response function in liquids using time-resolved terahertz pulse spectroscopy. Journal of Chemical Physics, 1999, 110, 8589-8596.	3.0	88