

Charles A Schmuttenmaer

List of Publications by Year in descending order

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100
papers

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66315

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docs citations

102
times ranked

9887
citing authors

#	ARTICLE	IF	CITATIONS
1	Ultrafast terahertz spectroscopy provides insight into charge transfer efficiency and dynamics in artificial photosynthesis. <i>Photosynthesis Research</i> , 2022, 151, 145-153.	1.6	2
2	Interrogating Light-initiated Dynamics in Metal-Organic Frameworks with Time-resolved Spectroscopy. <i>Chemical Reviews</i> , 2022, 122, 132-166.	23.0	22
3	Tuning the Conduction Band for Interfacial Electron Transfer: Dye-Sensitized Sn _{1-x} Ti _x O ₂ Photoanodes for Water Splitting. <i>ACS Applied Energy Materials</i> , 2021, 4, 4695-4703.	2.5	4
4	Nelly: A User-Friendly and Open-Source Implementation of Tree-Based Complex Refractive Index Analysis for Terahertz Spectroscopy. <i>Analytical Chemistry</i> , 2021, 93, 11243-11250.	3.2	15
5	Nanotechnology for catalysis and solar energy conversion. <i>Nanotechnology</i> , 2021, 32, 042003.	1.3	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-C ₃ N ₄ . , 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-C ₃ N ₄ . <i>Journal of Physical Chemistry Letters</i> , 2020, 11, 8873-8879.	2.1	25
12	Direct Evidence of Photoinduced Charge Transport Mechanism in 2D Conductive Metal Organic Frameworks. <i>Journal of the American Chemical Society</i> , 2020, 142, 21050-21058.	6.6	76
13	A conductive metal-organic framework photoanode. <i>Chemical Science</i> , 2020, 11, 9593-9603.	3.7	16
14	Terahertz Spectroscopy of Emerging Materials. <i>Journal of Physical Chemistry C</i> , 2020, 124, 22335-22346.	1.5	55
15	Suspensions of Semiconducting Nanoparticles in Nafion for Transient Spectroscopy and Terahertz Photoconductivity Measurements. <i>Analytical Chemistry</i> , 2020, 92, 4187-4192.	3.2	7
16	Terahertz Spectroscopy and Density Functional Theory Investigation of the Dipeptide L-Carnosine. <i>Journal of Infrared, Millimeter, and Terahertz Waves</i> , 2020, 41, 1366-1377.	1.2	11
17	Influence of Dye Sensitizers on Charge Dynamics in SnO ₂ Nanoparticles Probed with THz Spectroscopy. <i>Journal of Physical Chemistry C</i> , 2020, 124, 3482-3488.	1.5	9
18	Terahertz Time Domain Spectroscopy and Density Functional Theory Calculations of Peptides. , 2020, , .		1

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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	Metal-Organic Framework Photoconductivity via Time-Resolved Terahertz Spectroscopy. Journal of the American Chemical Society, 2019, 141, 9793-9797.	6.6	44
23	Terahertz Spectroscopy of Tetrameric Peptides. Journal of Physical Chemistry Letters, 2019, 10, 2624-2628.	2.1	39
24	Collaboration between experiment and theory in solar fuels research. Chemical Society Reviews, 2019, 48, 1865-1873.	18.7	17
25	Electronic Tuning of Metal Nanoparticles for Highly Efficient Photocatalytic Hydrogen Peroxide Production. ACS Catalysis, 2019, 9, 626-631.	5.5	84
26	Interfacial electron transfer in dye-sensitized mixed metal oxides for water splitting. , 2019, , .		1
27	Highly Active NiO Photocathodes for H ₂ O ₂ Production Enabled via Outer-Sphere Electron Transfer. Journal of the American Chemical Society, 2018, 140, 4079-4084.	6.6	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.	1.5	31
29	A Terahertz-Transparent Electrochemical Cell for In Situ Terahertz Spectroelectrochemistry. Analytical Chemistry, 2018, 90, 4389-4396.	3.2	21
30	Exploring the solid state phase transition in dl-norvaline with terahertz spectroscopy. Physical Chemistry Chemical Physics, 2018, 20, 276-283.	1.3	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, .	1.1	333
34	Applicability of the thin-film approximation in terahertz photoconductivity measurements. Applied Physics Letters, 2018, 113, .	1.5	35
35	Single-Atom Pt Catalyst for Effective C-F Bond Activation via Hydrodefluorination. ACS Catalysis, 2018, 8, 9353-9358.	5.5	70
36	Ultrafast proton-assisted tunneling through ZrO ₂ in dye-sensitized SnO ₂ -core/ZrO ₂ -shell films. Chemical Communications, 2018, 54, 7971-7974.	2.2	5

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37	Terahertz Spectroscopy and Density Functional Theory Calculations of α -Norleucine and α -Methionine. <i>Journal of Physical Chemistry A</i> , 2018, 122, 5978-5982.	1.1	40
38	Frequency-Dependent Terahertz Transient Photoconductivity of Mesoporous SnO ₂ Films. <i>Journal of Physical Chemistry C</i> , 2017, 121, 15949-15956.	1.5	24
39	Solvent Dependence of Lateral Charge Transfer in a Porphyrin Monolayer. <i>ACS Energy Letters</i> , 2017, 2, 168-173.	8.8	12
40	The 2017 terahertz science and technology roadmap. <i>Journal Physics D: Applied Physics</i> , 2017, 50, 043001.	1.3	1,160
41	Linker Length-Dependent Electron-Injection Dynamics of Trimesitylporphyrins on SnO ₂ Films. <i>Journal of Physical Chemistry C</i> , 2017, 121, 22690-22699.	1.5	13
42	Optimization of Photoanodes for Photocatalytic Water Oxidation by Combining a Heterogenized Iridium Waterâ€Oxidation Catalyst with a Highâ€Potential Porphyrin Photosensitizer. <i>ChemSusChem</i> , 2017, 10, 4526-4534.	3.6	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. <i>IEEE Transactions on Terahertz Science and Technology</i> , 2017, 7, 755-764.	2.0	10
45	Optical pump â€” THz probe studies of size-dependent ultrafast charge carrier dynamics in WO ₃ particles for photoelectrochemical cells. , 2016, , .		0
46	High-Potential Porphyrins Supported on SnO ₂ and TiO ₂ Surfaces for Photoelectrochemical Applications. <i>Journal of Physical Chemistry C</i> , 2016, 120, 28971-28982.	1.5	28
47	Photocurrent Enhancement from Solid-State Tripletâ€Triplet Annihilation Upconversion of Low-Intensity, Low-Energy Photons. <i>ACS Photonics</i> , 2016, 3, 784-790.	3.2	68
48	Controlling the rectification properties of molecular junctions through moleculeâ€electrode coupling. <i>Nanoscale</i> , 2016, 8, 16357-16362.	2.8	33
49	Rutile TiO ₂ as an Anode Material for Water-Splitting Dye-Sensitized Photoelectrochemical Cells. <i>ACS Energy Letters</i> , 2016, 1, 603-606.	8.8	54
50	Dynamics of Electron Injection in SnO ₂ /TiO ₂ Core/Shell Electrodes for Water-Splitting Dye-Sensitized Photoelectrochemical Cells. <i>Journal of Physical Chemistry Letters</i> , 2016, 7, 2930-2934.	2.1	56
51	Terahertz spectroscopic polarimetry of generalized anisotropic media composed of Archimedean spiral arrays: Experiments and simulations. <i>Journal of Chemical Physics</i> , 2016, 144, 174705.	1.2	11
52	Size-Dependent Ultrafast Charge Carrier Dynamics of WO ₃ for Photoelectrochemical Cells. <i>Journal of Physical Chemistry C</i> , 2016, 120, 14926-14933.	1.5	35
53	Proton-Induced Trap States, Injection and Recombination Dynamics in Water-Splitting Dye-Sensitized Photoelectrochemical Cells. <i>ACS Applied Materials & Interfaces</i> , 2016, 8, 16727-16735.	4.0	35
54	Surface-Induced Deprotection of THP-Protected Hydroxamic Acids on Titanium Dioxide. <i>Journal of Physical Chemistry C</i> , 2016, 120, 12495-12502.	1.5	11

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55	Molecular design of light-harvesting photosensitizers: effect of varied linker conjugation on interfacial electron transfer. <i>Physical Chemistry Chemical Physics</i> , 2016, 18, 18678-18682.	1.3	21
56	Structure–function relationships in single molecule rectification by N-phenylbenzamide derivatives. <i>New Journal of Chemistry</i> , 2016, 40, 7373-7378.	1.4	7
57	Ultrafast Electron Injection Dynamics of Photoanodes for Water-Splitting Dye-Sensitized Photoelectrochemical Cells. <i>Journal of Physical Chemistry C</i> , 2016, 120, 5940-5948.	1.5	48
58	Facet-Dependent Photoelectrochemical Performance of TiO ₂ Nanostructures: An Experimental and Computational Study. <i>Journal of the American Chemical Society</i> , 2015, 137, 1520-1529.	6.6	242
59	A molecular catalyst for water oxidation that binds to metal oxide surfaces. <i>Nature Communications</i> , 2015, 6, 6469.	5.8	256
60	Functioning Photoelectrochemical Devices Studied with Time-Resolved Terahertz Spectroscopy. <i>Journal of Physical Chemistry Letters</i> , 2015, 6, 3257-3262.	2.1	24
61	Interfacial electron transfer in photoanodes based on phosphorus(v) porphyrin sensitizers co-deposited on SnO ₂ with the Ir(III)Cp* water oxidation precatalyst. <i>Journal of Materials Chemistry A</i> , 2015, 3, 3868-3879.	5.2	47
62	Electron Injection Dynamics in High-Potential Porphyrin Photoanodes. <i>Accounts of Chemical Research</i> , 2015, 48, 1423-1431.	7.6	37
63	Computational Design of Intrinsic Molecular Rectifiers Based on Asymmetric Functionalization of <i>N</i> -Phenylbenzamide. <i>Journal of Chemical Theory and Computation</i> , 2015, 11, 5888-5896.	2.3	34
64	Ultrafast Carrier Dynamics in Nanostructures for Solar Fuels. <i>Annual Review of Physical Chemistry</i> , 2014, 65, 423-447.	4.8	89
65	Linker Rectifiers for Covalent Attachment of Transition–Metal Catalysts to Metal–Oxide Surfaces. <i>ChemPhysChem</i> , 2014, 15, 1138-1147.	1.0	20
66	Modular Assembly of High-Potential Zinc Porphyrin Photosensitizers Attached to TiO ₂ with a Series of Anchoring Groups. <i>Journal of Physical Chemistry C</i> , 2013, 117, 14526-14533.	1.5	90
67	Electron Injection Dynamics from Photoexcited Porphyrin Dyes into SnO ₂ and TiO ₂ Nanoparticles. <i>Journal of Physical Chemistry C</i> , 2013, 117, 21662-21670.	1.5	54
68	Efficiency of Interfacial Electron Transfer from Zn-Porphyrin Dyes into TiO ₂ Correlated to the Linker Single Molecule Conductance. <i>Journal of Physical Chemistry C</i> , 2013, 117, 24462-24470.	1.5	55
69	Plasmonic Enhancement of Dye-Sensitized Solar Cells Using Core–Shell Nanostructures. <i>Journal of Physical Chemistry C</i> , 2013, 117, 927-934.	1.5	117
70	Hydroxamate Anchors for Improved Photoconversion in Dye-Sensitized Solar Cells. <i>Inorganic Chemistry</i> , 2013, 52, 6752-6764.	1.9	102
71	Intermolecular Vibrations in Hydrophobic Amino Acid Crystals: Experiments and Calculations. <i>Journal of Physical Chemistry B</i> , 2013, 117, 10444-10461.	1.2	73
72	Efficient measurement of broadband terahertz optical activity. <i>Applied Physics Letters</i> , 2012, 100, 241114.	1.5	31

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73	Light-driven water oxidation for solar fuels. <i>Coordination Chemistry Reviews</i> , 2012, 256, 2503-2520.	9.5	337
74	Bioinspired High-Potential Porphyrin Photoanodes. <i>Journal of Physical Chemistry C</i> , 2012, 116, 4892-4902.	1.5	69
75	Terahertz spectroscopy of enantiopure and racemic polycrystalline valine. <i>Physical Chemistry Chemical Physics</i> , 2011, 13, 11719.	1.3	70
76	Fluctuation-Induced Tunneling Conductivity in Nanoporous TiO ₂ Thin Films. <i>Journal of Physical Chemistry Letters</i> , 2011, 2, 1931-1936.	2.1	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. <i>Energy and Environmental Science</i> , 2011, 4, 2389.	15.6	257
78	Terahertz Spectroscopy of Histidine Enantiomers and Polymorphs. <i>Journal of Infrared, Millimeter, and Terahertz Waves</i> , 2011, 32, 691-698.	1.2	32
79	Exciton-like trap states limit electron mobility in TiO ₂ nanotubes. <i>Nature Nanotechnology</i> , 2010, 5, 769-772.	15.6	237
80	Water-stable, hydroxamate anchors for functionalization of TiO ₂ surfaces with ultrafast interfacial electron transfer. <i>Energy and Environmental Science</i> , 2010, 3, 917.	15.6	99
81	Carrier dynamics in bulk ZnO. I. Intrinsic conductivity measured by terahertz time-domain spectroscopy. <i>Physical Review B</i> , 2009, 80, .	1.1	19
82	Synergistic effect between anatase and rutile TiO ₂ nanoparticles in dye-sensitized solar cells. <i>Dalton Transactions</i> , 2009, , 10078.	1.6	196
83	Carrier dynamics in bulk ZnO. II. Transient photoconductivity measured by time-resolved terahertz spectroscopy. <i>Physical Review B</i> , 2009, 80, .	1.1	17
84	Hydroxamate anchors for water-stable attachment to TiO ₂ nanoparticles. <i>Energy and Environmental Science</i> , 2009, 2, 1173.	15.6	91
85	Acetylacetonate Anchors for Robust Functionalization of TiO ₂ Nanoparticles with Mn(II)-Terpyridine Complexes. <i>Journal of the American Chemical Society</i> , 2008, 130, 14329-14338.	6.6	151
86	Ultrafast Photooxidation of Mn(II)-Terpyridine Complexes Covalently Attached to TiO ₂ Nanoparticles. <i>Journal of Physical Chemistry C</i> , 2007, 111, 11982-11990.	1.5	82
87	Antenna-Coupled Niobium Bolometers for Terahertz Spectroscopy. <i>IEEE Transactions on Applied Superconductivity</i> , 2007, 17, 412-415.	1.1	24
88	Conductivity of ZnO Nanowires, Nanoparticles, and Thin Films Using Time-Resolved Terahertz Spectroscopy. <i>Journal of Physical Chemistry B</i> , 2006, 110, 25229-25239.	1.2	372
89	Exploring Dynamics in the Far-Infrared with Terahertz Spectroscopy. <i>Chemical Reviews</i> , 2004, 104, 1759-1780.	23.0	576
90	A New Method for Measuring Intramolecular Charge Transfer. <i>Science Progress</i> , 2002, 85, 175-197.	1.0	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.	1.2	219
92	Size-Dependent Photoconductivity in CdSe Nanoparticles as Measured by Time-Resolved Terahertz Spectroscopy. Nano Letters, 2002, 2, 983-987.	4.5	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.	1.1	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.	1.2	56
95	Structure and dynamics of nonaqueous mixtures of dipolar liquids. II. Molecular dynamics simulations. Journal of Chemical Physics, 2000, 113, 3249-3260.	1.2	51
96	Spectroscopy and dynamics of mixtures of water with acetone, acetonitrile, and methanol. Journal of Chemical Physics, 2000, 113, 11222-11236.	1.2	198
97	Transient photoconductivity in GaAs as measured by time-resolved terahertz spectroscopy. Physical Review B, 2000, 62, 15764-15777.	1.1	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.	1.2	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.	1.2	88