

H-G Steinrück

List of Publications by Year in descending order

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56
papers

2,093
citations

218592

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docs citations

59
times ranked

3252
citing authors

#	ARTICLE	IF	CITATIONS
1	Solid Electrolyte Interphase on Native Oxide-Terminated Silicon Anodes for Li-Ion Batteries. <i>Joule</i> , 2019, 3, 762-781.	11.7	185
2	Tortuosity Effects in Lithium-Metal Host Anodes. <i>Joule</i> , 2020, 4, 938-952.	11.7	150
3	Structural Origins of Light-Induced Phase Segregation in Organic-Inorganic Halide Perovskite Photovoltaic Materials. <i>Matter</i> , 2020, 2, 207-219.	5.0	128
4	A Review of Existing and Emerging Methods for Lithium Detection and Characterization in Li-Ion and Li-Metal Batteries. <i>Advanced Energy Materials</i> , 2021, 11, 2100372.	10.2	114
5	Novel ALD Chemistry Enabled Low-Temperature Synthesis of Lithium Fluoride Coatings for Durable Lithium Anodes. <i>ACS Applied Materials & Interfaces</i> , 2018, 10, 26972-26981.	4.0	99
6	Visualization of dynamic polaronic strain fields in hybrid lead halide perovskites. <i>Nature Materials</i> , 2021, 20, 618-623.	13.3	96
7	Low-Voltage Self-Assembled Monolayer Field-Effect Transistors on Flexible Substrates. <i>Advanced Materials</i> , 2013, 25, 4511-4514.	11.1	78
8	Structural Investigations of Self-Assembled Monolayers for Organic Electronics: Results from X-ray Reflectivity. <i>Accounts of Chemical Research</i> , 2015, 48, 1901-1908.	7.6	66
9	In Situ Study of Silicon Electrode Lithiation with X-ray Reflectivity. <i>Nano Letters</i> , 2016, 16, 7394-7401.	4.5	66
10	Quantification of heterogeneous, irreversible lithium plating in extreme fast charging of lithium-ion batteries. <i>Energy and Environmental Science</i> , 2021, 14, 4979-4988.	15.6	58
11	Time-Resolved Structural Kinetics of an Organic Mixed Ionic-Electronic Conductor. <i>Advanced Materials</i> , 2020, 32, e2003404.	11.1	55
12	Water-in-Salt LiTFSI Aqueous Electrolytes. 1. Liquid Structure from Combined Molecular Dynamics Simulation and Experimental Studies. <i>Journal of Physical Chemistry B</i> , 2021, 125, 4501-4513.	1.2	52
13	Heterogeneous Behavior of Lithium Plating during Extreme Fast Charging. <i>Cell Reports Physical Science</i> , 2020, 1, 100114.	2.8	49
14	The nanoscale structure of the electrolyte-metal oxide interface. <i>Energy and Environmental Science</i> , 2018, 11, 594-602.	15.6	46
15	Water or Anion? Uncovering the Zn^{2+} Solvation Environment in Mixed $Zn(TFSI)_2$ and LiTFSI Water-in-Salt Electrolytes. <i>ACS Energy Letters</i> , 2021, 6, 3458-3463.	8.8	45
16	Concentration and velocity profiles in a polymeric lithium-ion battery electrolyte. <i>Energy and Environmental Science</i> , 2020, 13, 4312-4321.	15.6	43
17	Fluoroethylene Carbonate Induces Ordered Electrolyte Interface on Silicon and Sapphire Surfaces as Revealed by Sum Frequency Generation Vibrational Spectroscopy and X-ray Reflectivity. <i>Nano Letters</i> , 2018, 18, 2105-2111.	4.5	42
18	Surface structure evolution in a homologous series of ionic liquids. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, E1100-E1107.	3.3	42

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19	The Atomic Scale Electrochemical Lithiation and Delithiation Process of Silicon. <i>Advanced Materials Interfaces</i> , 2017, 4, 1700771.	1.9	39
20	Impact of Processing on Structural and Compositional Evolution in Mixed Metal Halide Perovskites during Film Formation. <i>Advanced Functional Materials</i> , 2020, 30, 2001752.	7.8	39
21	Toward Unraveling the Origin of Lithium Fluoride in the Solid Electrolyte Interphase. <i>Chemistry of Materials</i> , 2021, 33, 7315-7336.	3.2	39
22	Nanoscale Structure of Si/SiO ₂ /Organics Interfaces. <i>ACS Nano</i> , 2014, 8, 12676-12681.	7.3	36
23	Advanced Characterization in Clean Water Technologies. <i>Joule</i> , 2020, 4, 1637-1659.	11.7	33
24	In situ investigation of two-step nucleation and growth of CdS nanoparticles from solution. <i>Nanoscale</i> , 2015, 7, 11328-11333.	2.8	30
25	Nanoscale Structure of the Oil-Water Interface. <i>Physical Review Letters</i> , 2016, 117, 256102.	2.9	28
26	Interfacial Speciation Determines Interfacial Chemistry: X-ray-Induced Lithium Fluoride Formation from Water-in-Salt Electrolytes on Solid Surfaces. <i>Angewandte Chemie - International Edition</i> , 2020, 59, 23180-23187.	7.2	28
27	Tuning the molecular order of C ₆₀ -based self-assembled monolayers in field-effect transistors. <i>Nanoscale</i> , 2014, 6, 13022-13027.	2.8	26
28	Structure of <i>n</i> -Alkyltrichlorosilane Monolayers on Si(100)/SiO ₂ . <i>Langmuir</i> , 2015, 31, 11774-11780.	1.6	26
29	Understanding additive controlled lithium morphology in lithium metal batteries. <i>Journal of Materials Chemistry A</i> , 2020, 8, 16960-16972.	5.2	26
30	Shedding X-ray Light on the Interfacial Electrochemistry of Silicon Anodes for Li-Ion Batteries. <i>Accounts of Chemical Research</i> , 2019, 52, 2673-2683.	7.6	25
31	Toward quantifying capacity losses due to solid electrolyte interphase evolution in silicon thin film batteries. <i>Journal of Chemical Physics</i> , 2020, 152, 084702.	1.2	25
32	Effect of Structure and Disorder on the Charge Transport in Defined Self-Assembled Monolayers of Organic Semiconductors. <i>ACS Nano</i> , 2017, 11, 8747-8757.	7.3	23
33	<i>GIWAXS-SIRKit</i> : scattering intensity, indexing and refraction calculation toolkit for grazing-incidence wide-angle X-ray scattering of organic materials. <i>Journal of Applied Crystallography</i> , 2020, 53, 1108-1129.	1.9	22
34	Region-Selective Self-Assembly of Functionalized Carbon Allotropes from Solution. <i>ACS Nano</i> , 2013, 7, 11427-11434.	7.3	21
35	Unraveling the Unconventional Order of a High-Mobility Indacenodithiophene-Benzothiadiazole Copolymer. <i>ACS Macro Letters</i> , 2021, 10, 1306-1314.	2.3	20
36	Quantification of Efficiency in Lithium Metal Negative Electrodes via Operando X-ray Diffraction. <i>Chemistry of Materials</i> , 2021, 33, 7537-7545.	3.2	17

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37	Using <i>In Situ</i> High-Energy X-ray Diffraction to Quantify Electrode Behavior of Li-Ion Batteries from Extreme Fast Charging. <i>ACS Applied Energy Materials</i> , 2021, 4, 11590-11598.	2.5	17
38	Pseudorotational Epitaxy of Self-Assembled Octadecyltrichlorosilane Monolayers on Sapphire (0001). <i>Physical Review Letters</i> , 2014, 113, 156101.	2.9	16
39	Order and Melting in Self-Assembled Alkanol Monolayers on Amorphous SiO ₂ . <i>Journal of Physical Chemistry C</i> , 2015, 119, 17648-17654.	1.5	16
40	Noble metal free photocatalytic H ₂ generation on black TiO ₂ : On the influence of crystal facets vs. crystal damage. <i>Applied Physics Letters</i> , 2017, 110, .	1.5	16
41	Memory Effect of Self-Assembled PS-PEO Block Copolymer Films with Selectively Embedded Functionalized TiO ₂ Nanoparticles. <i>Advanced Materials Interfaces</i> , 2017, 4, 1700230.	1.9	13
42	Orientation-Dependent Distortion of Lamellae in a Block Copolymer Electrolyte under DC Polarization. <i>Macromolecules</i> , 2021, 54, 7808-7821.	2.2	12
43	Ammonium enables reversible aqueous Zn battery chemistries by tailoring the interphase. <i>One Earth</i> , 2022, 5, 413-421.	3.6	10
44	Oxygen diffusivity in silicon derived from dynamical X-ray diffraction. <i>Journal of Applied Physics</i> , 2013, 113, 073508.	1.1	9
45	Interfacial Speciation Determines Interfacial Chemistry: X-ray-Induced Lithium Fluoride Formation from Water-salt Electrolytes on Solid Surfaces. <i>Angewandte Chemie</i> , 2020, 132, 23380-23387.	1.6	9
46	Combined Effects of Uniform Applied Pressure and Electrolyte Additives in Lithium-Metal Batteries. <i>ACS Applied Energy Materials</i> , 2022, 5, 8273-8281.	2.5	9
47	Interface Engineering of Molecular Charge Storage Dielectric Layers for Organic Thin-Film Memory Transistors. <i>Advanced Materials Interfaces</i> , 2014, 1, 1400238.	1.9	8
48	Conformal Pressure and Fast-Charging Li-Ion Batteries. <i>Journal of the Electrochemical Society</i> , 2022, 169, 040540.	1.3	8
49	Oligothiophene Phosphonic Acids for Self-Assembled Monolayer Field-Effect Transistors. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 32461-32466.	4.0	7
50	Crystallization and Organic Field-Effect Transistor Performance of a Hydrogen-Bonded Quaterthiophene. <i>Chemistry - A European Journal</i> , 2020, 26, 10265-10275.	1.7	5
51	Modeling cyclic voltammetry during solid electrolyte interphase formation: Baseline scenario of a dynamically evolving tunneling barrier resulting from a homogeneous single-phase insulating film. <i>Journal of Chemical Physics</i> , 2021, 154, 174703.	1.2	5
52	Morphology of Organic Semiconductors Electrically Doped from Solution Using Phosphomolybdic Acid. <i>Chemistry of Materials</i> , 2019, 31, 6677-6683.	3.2	4
53	Interface between Water-Solvent Mixtures and a Hydrophobic Surface. <i>Langmuir</i> , 2020, 36, 12077-12086.	1.6	4
54	General relationship between salt concentration and x-ray absorption for binary electrolytes. <i>AIP Advances</i> , 2021, 11, .	0.6	2

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55	Lamellar carbon-aluminosilicate nanocomposites with macroscopic orientation. <i>Nanoscale</i> , 2021, 13, 13650-13657.	2.8	0
56	(Invited) X-Ray Reflectivity Studies of Interfaces in Lithium-Ion Batteries. <i>ECS Meeting Abstracts</i> , 2019, , .	0.0	0