Christina Scheu

List of Publications by Year
in descending order

115 papers	5,336 citations	147801 31 h-index	88630 70 g-index
116 all docs	116 docs citations	116 times ranked	7791 citing authors

#	Article	IF	Citations
1	Narrow-band red-emitting Sr[LiAl3N4]:Eu2+ as a next-generation LED-phosphor material. Nature Materials, 2014, 13, 891-896.	27.5	1,217
2	Iron-Doped Nickel Oxide Nanocrystals as Highly Efficient Electrocatalysts for Alkaline Water Splitting. ACS Nano, 2015, 9, 5180-5188.	14.6	446
3	Discovery of a Multinary Noble Metalâ€“Free Oxygen Reduction Catalyst. Advanced Energy Materials, 2018, 8, 1802269.	19.5	227
4	Ca[LiAl₃N₄]:Eu²⁺â€”A Narrow-Band Red-Emitting Nitridolithoaluminate. Chemistry of Materials, 2014, 26, 3544-3549.	6.7	201
5	Oscillatory Mass Transport in Vapor-Liquid-Solid Growth of Sapphire Nanowires. Science, 2010, 330, 489-493.	12.6	166
6	Simultaneous optimization of electrical and thermal transport properties of Bi0.5Sb1.5Te3 thermoelectric alloy by twin boundary engineering. Nano Energy, 2017, 37, 203-213.	16.0	164
7	Atomic-scale insights into surface species of electrocatalysts in three dimensions. Nature Catalysis, 2018, 1, 300-305.	34.4	161
8	Tin doping speeds up hole transfer during light-driven water oxidation at hematite photoanodes. Physical Chemistry Chemical Physics, 2014, 16, 24610-24620.	2.8	159
9	Degradation of iridium oxides via oxygen evolution from the lattice: correlating atomic scale structure with reaction mechanisms. Energy and Environmental Science, 2019, 12, 3548-3555.	30.8	147
10	Toward a Paradigm Shift in Electrocatalysis Using Complex Solid Solution Nanoparticles. ACS Energy Letters, 2019, 4, 1206-1214.	17.4	140
11	Rational strain engineering in delafossite oxides for highly efficient hydrogen evolution catalysis in acidic media. Nature Catalysis, 2020, 3, 55-63.	34.4	124
12	A Novel Buffering Technique for Aqueous Processing of Zinc Oxide Nanostructures and Interfaces, and Corresponding Improvement of Electrodeposited ZnOâ€Cu₂O Photovoltaics. Advanced Functional Materials, 2011, 21, 573-582.	14.9	122
13	Ag-Segregation to Dislocations in PbTe-Based Thermoelectric Materials. ACS Applied Materials & Interfaces, 2018, 10, 3609-3615.	8.0	74
14	Revealing nano-chemistry at lattice defects in thermoelectric materials using atom probe tomography. Materials Today, 2020, 32, 260-274.	14.2	73
15	Mo-doped BiVO₄ thin films â€“ high photoelectrochemical water splitting performance achieved by a tailored structure and morphology. Sustainable Energy and Fuels, 2017, 1, 1830-1846.	4.9	72
16	Strain-Induced Asymmetric Line Segregation at Faceted Si Grain Boundaries. Physical Review Letters, 2018, 121, 015702.	7.8	65
17	Evaluation of EELS spectrum imaging data by spectral components and factors from multivariate analysis. Microscopy (Oxford, England), 2018, 67, i133-i141.	1.5	59
18	Enhanced Photoelectrochemical Water Oxidation Performance by Fluorine Incorporation in BiVO₄ and Mo:BiVO₄ Thin Film Photoanodes. ACS Applied Materials & Interfaces, 2019, 11, 16430-16442.	8.0	52

#	Article	IF	Citations
19	Influence of the size and shape of silica nanoparticles on the properties and degradation of a PBI-based high temperature polymer electrolyte membrane. Journal of Membrane Science, 2014, 454, 12-19.	8.2	49
20	Band Gap Tuning in Poly(triazine imide), a Nonmetallic Photocatalyst. Journal of Physical Chemistry C, 2013, 117, 8806-8812.	3.1	47
21	Ca_{18.75}Li_{10.5}[Al₃₉N₅₅]:Eu²⁺â€”Supertetrahedron Phosphor for Solid-State Lighting. Chemistry of Materials, 2016, 28, 1220-1226.	6.7	47
22	Dissolution of BiVO₄ Photoanodes Revealed by Time-Resolved Measurements under Photoelectrochemical Conditions. Journal of Physical Chemistry C, 2019, 123, 23410-23418.	3.1	47
23	Platinumâ€“cobalt catalysts for the oxygen reduction reaction in high temperature proton exchange membrane fuel cells â€“ Long term behavior under ex-situ and in-situ conditions. Journal of Power Sources, 2014, 266, 313-322.	7.8	43
24	Atomicâ€Scale Mapping of Impurities in Partially Reduced Hollow TiO₂ Nanowires. Angewandte Chemie - International Edition, 2020, 59, 5651-5655.	13.8	42
25	Different Photostability of BiVO₄ in Near-pH-Neutral Electrolytes. ACS Applied Energy Materials, 2020, 3, 9523-9527.	5.1	41
26	Parallel Dislocation Networks and Cottrell Atmospheres Reduce Thermal Conductivity of PbTe Thermoelectrics. Advanced Functional Materials, 2021, 31, 2101214.	14.9	41
27	Hydrophilic Silver Nanoparticles for Hg(II) Detection in Water: Direct Evidence for Mercuryâ€“Silver Interaction. Journal of Physical Chemistry C, 2020, 124, 25975-25983.	3.1	40
28	Fracture toughness of Mo2BC thin films: Intrinsic toughness versus system toughening. Materials and Design, 2018, 154, 20-27.	7.0	38
29	Accelerated fuel cell tests of anodic Pt/Ru catalyst via identical location TEM: New aspects of degradation behavior. International Journal of Hydrogen Energy, 2017, 42, 25359-25371.	7.1	36
30	Microstructural evolution and solid state dewetting of epitaxial Al thin films on sapphire (Î±-Al2O3). Acta Materialia, 2017, 133, 356-366.	7.9	34
31	Time-resolved analysis of dissolution phenomena in photoelectrochemistry â€“ A case study of WO3 photocorrosion. Electrochemistry Communications, 2018, 96, 53-56.	4.7	34
32	Influence of thermal post-curing on the degradation of a cross-linked polybenzimidazole-based membrane for high temperature polymer electrolyte membrane fuel cells. Journal of Power Sources, 2014, 267, 323-328.	7.8	31
33	Role of Vacancy Condensation in the Formation of Voids in Rutile TiO₂ Nanowires. ACS Applied Materials & Interfaces, 2017, 9, 13471-13479.	8.0	31
34	Controlling the Amorphous and Crystalline State of Multinary Alloy Nanoparticles in An Ionic Liquid. Nanomaterials, 2018, 8, 903.	4.1	31
35	Irreversible Structural Changes of Copper Hexacyanoferrate Used as a Cathode in Znâ€Ion Batteries. Chemistry - A European Journal, 2020, 26, 4917-4922.	3.3	31
36	Superior solar-to-hydrogen energy conversion efficiency by visible light-driven hydrogen production via highly reduced Ti²⁺/Ti³⁺ states in a blue titanium dioxide photocatalyst. Catalysis Science and Technology, 2018, 8, 4657-4664.	4.1	30

#	Article	IF	Citations
37	Cation exchange synthesis and optoelectronic properties of type II CdTeâ€“Cu2âˆ’xTe nano-heterostructures. Journal of Materials Chemistry C, 2014, 2, 3189.	5.5	29
38	Are Mo2BC nanocrystalline coatings damage resistant? Insights from comparative tension experiments. Surface and Coatings Technology, 2016, 289, 213-218.	4.8	29
39	Influence of membrane type and molecular weight distribution on the degradation of PBI-based HTPEM fuel cells. Journal of Membrane Science, 2016, 509, 27-35.	8.2	29
40	Role of Nanostructuring and Microstructuring in Silver Antimony Telluride Compounds for Thermoelectric Applications. ACS Applied Materials & Interfaces, 2017, 9, 14779-14790.	8.0	28
41	Remote Tracking of Phase Changes in Cr2AlC Thin Films by In-situ Resistivity Measurements. Scientific Reports, 2019, 9, 8266.	3.3	28
42	Effects of thermal annealing on the microstructure of sputtered Al2O3 coatings. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2011, 29, .	2.1	25
43	Dislocations Stabilized by Point Defects Increase Brittleness in PbTe. Advanced Functional Materials, 2021, 31, 2108006.	14.9	25
44	Control of Recombination Pathways in TiO₂ Nanowire Hybrid Solar Cells Using Sn⁴⁺ Dopants. Journal of Physical Chemistry C, 2014, 118, 16672-16679.	3.1	24
45	Dopant-segregation to grain boundaries controls electrical conductivity of n-type NbCo(Pt)Sn half-Heusler alloy mediating thermoelectric performance. Acta Materialia, 2021, 217, 117147.	7.9	24
46	Tungsten materials as durable catalyst supports for fuel cell electrodes. Journal of Power Sources, 2013, 243, 472-480.	7.8	23
47	Model for Hydrothermal Growth of Rutile Wires and the Associated Development of Defect Structures. Crystal Growth and Design, 2014, 14, 4658-4663.	3.0	23
48	Theoretical and Experimental Study on the Optoelectronic Properties of Nb₃O₇(OH) and Nb₂O₅ Photoelectrodes. Journal of Physical Chemistry C, 2016, 120, 23329-23338.	3.1	22
49	Control of bonding and epitaxy at copper/sapphire interface. Applied Physics Letters, 2007, 91, 141912.	3.3	21
50	Sputter deposition of highly active complex solid solution electrocatalysts into an ionic liquid library: effect of structure and composition on oxygen reduction activity. Nanoscale, 2020, 12, 23570-23577.	5.6	21
51	Annealing induced void formation in epitaxial Al thin films on sapphire (Î±-Al2O3). Acta Materialia, 2017, 140, 355-365.	7.9	19
52	Electrospun vanadium sulfide / carbon hybrid fibers obtained via one-step thermal sulfidation for use as lithium-ion battery electrodes. Journal of Power Sources, 2020, 450, 227674.	7.8	19
53	Hydrothermally Grown TiO₂ Nanorod Array Memristors with Volatile States. ACS Applied Materials & Interfaces, 2020, 12, 23363-23369.	8.0	19
54	Template-free synthesis of novel, highly-ordered 3D hierarchical Nb₃O₇(OH) superstructures with semiconductive and photoactive properties. Journal of Materials Chemistry A, 2014, 2, 12005.	10.3	18

#	Article	IF	Citations
55	Defeating Loss Mechanisms in 1D TiO₂â€Based Hybrid Solar Cells. Advanced Functional Materials, 2015, 25, 2601-2608.	14.9	18
56	How photocorrosion can trick you: a detailed study on low-bandgap Li doped CuO photocathodes for solar hydrogen production. Nanoscale, 2020, 12, 7766-7775.	5.6	18
57	Direct MoB MBene domain formation in magnetron sputtered MoAlB thin films. Nanoscale, 2021, 13, 18077-18083.	5.6	18
58	Tailoring Thermoelectric Transport Properties of Ag-Alloyed PbTe: Effects of Microstructure Evolution. ACS Applied Materials & Interfaces, 2018, 10, 38994-39001.	8.0	17
59	Synthesis and Properties of Orthorhombic MoAlB Coatings. Coatings, 2019, 9, 510.	2.6	17
60	Unraveling micro- and nanoscale degradation processes during operation of high-temperature polymer-electrolyte-membrane fuel cells. Journal of Power Sources, 2017, 364, 437-448.	7.8	17
61	Transmission electron microscopy study of silica reinforced polybenzimidazole membranes. Journal of Membrane Science, 2015, 478, 65-74.	8.2	16
62	Tuning the Electronic Conductivity in Hydrothermally Grown Rutile TiO2 Nanowires: Effect of Heat Treatment in Different Environments. Nanomaterials, 2017, 7, 289.	4.1	16
63	Modifying the nanostructure and the mechanical properties of Mo2BC hard coatings: Influence of substrate temperature during magnetron sputtering. Materials and Design, 2018, 142, 203-211.	7.0	16
64	Dynamic doping and Cottrell atmosphere optimize the thermoelectric performance of n-type PbTe over a broad temperature interval. Nano Energy, 2022, 101, 107576.	16.0	16
65	Direct observation of interface and nanoscale compositional modulation in ternary III-As heterostructure nanowires. Applied Physics Letters, 2013, 103, .	3.3	15
66	Atomic level bonding mechanism in steel/aluminum joints produced by cold pressure welding. Materialia, 2019, 7, 100396.	2.7	14
67	V(III)-Doped Nickel Oxide-Based Nanocatalysts for Electrochemical Water Splitting: Influence of Phase, Composition, and Doping on the Electrocatalytic Activity. Chemistry of Materials, 2020, 32, 10394-10406.	6.7	14
68	Synthesis of plasmonic Fe/Al nanoparticles in ionic liquids. RSC Advances, 2020, 10, 12891-12899.	3.6	14
69	Morphology, Optical Properties and Photocatalytic Activity of Photo- and Plasma-Deposited Au and Au/Ag Core/Shell Nanoparticles on Titania Layers. Nanomaterials, 2018, 8, 502.	4.1	13
70	Density, distribution and nature of planar faults in silver antimony telluride for thermoelectric applications. Acta Materialia, 2019, 178, 135-145.	7.9	13
71	Combinatorial Synthesis of Binary Nanoparticles in Ionic Liquids by Cosputtering and Mixing of Elemental Nanoparticles. ACS Combinatorial Science, 2019, 21, 743-752.	3.8	13
72	Defects in an orthorhombic MoAlB MAB phase thin film grown at moderate synthesis temperature. Nanoscale, 2022, 14, 2578-2585.	5.6	13

#	Article	IF	Citations
73	A biomolecule-assisted, cost-efficient route for growing tunable CuInS₂ films for green energy application. RSC Advances, 2017, 7, 20219-20230.	3.6	12
74	Microstructure evolution and thermal stability of equiatomic CoCrFeNi films on (0001) Î±-Al2O3. Acta Materialia, 2020, 200, 908-921.	7.9	12
75	TEM preparation methods and influence of radiation damage on the beam sensitive CaCO3 shell of Emiliania huxleyi. Micron, 2014, 62, 28-36.	2.2	11
76	Heat-Induced Phase Transformation of Three-Dimensional Nb3O7(OH) Superstructures: Effect of Atmosphere and Electron Beam. Crystal Growth and Design, 2016, 16, 4309-4317.	3.0	11
77	Nanostructure of and structural defects in a Mo2BC hard coating investigated by transmission electron microscopy and atom probe tomography. Journal of Applied Physics, 2017, 122, .	2.5	11
78	Vanadium (III) Oxide/Carbon Core/Shell Hybrids as an Anode for Lithiumâ€ion Batteries. Batteries and Supercaps, 2019, 2, 74-82.	4.7	10
79	Sn-Doped Hematite for Photoelectrochemical Water Splitting: The Effect of Sn Concentration. Zeitschrift Fur Physikalische Chemie, 2020, 234, 683-698.	2.8	10
80	High-throughput characterization of Agâ€“Vâ€“O nanostructured thin-film materials libraries for photoelectrochemical solar water splitting. International Journal of Hydrogen Energy, 2020, 45, 12037-12047.	7.1	10
81	Influence of strain on the electronic structure of the TbMnO3/SrTiO3 epitaxial interface. Applied Physics Letters, 2011, 99, .	3.3	9
82	Structural Evolution of Ni-Based Co-Catalysts on [Ca2Nb3O10]â^' Nanosheets during Heating and Their Photocatalytic Properties. Catalysts, 2020, 10, 13.	3.5	9
83	Strong Efficiency Improvements in Ultra-low-Cost Inorganic Nanowire Solar Cells (Adv. Mater.) Tj ETQq1 1 0.784314 rgBT /Overlock 10	21.0	8
84	Synthesis and characterization of CuInS2 thin film structures. Journal of Materials Science, 2012, 47, 1669-1676.	3.7	8
85	Insight into the coreâ€“shell structures of Cuâ€“Inâ€“S microspheres. Solid State Sciences, 2013, 26, 23-30.	3.2	8
86	Insight into the Degradation of HT-PEMFCs Containing Tungsten Oxide Catalyst Support Material for the Anode. Journal of the Electrochemical Society, 2015, 162, F280-F290.	2.9	8
87	Titanium Doping and Its Effect on the Morphology of Three-Dimensional Hierarchical Nb₃O₇(OH) Nanostructures for Enhanced Light-Induced Water Splitting. Chemistry of Materials, 2016, 28, 7666-7672.	6.7	8
88	Growth of Porous Platinum Catalyst Structures on Tungsten Oxide Support Materials: A New Design for Electrodes. Crystal Growth and Design, 2017, 17, 1661-1668.	3.0	8
89	Challenges in TEM sample preparation of solvothermally grown CuInS 2 films. Micron, 2018, 109, 1-10.	2.2	8
90	Thermal stability of nanocomposite Mo2BC hard coatings deposited by magnetron sputtering. Surface and Coatings Technology, 2018, 349, 378-383.	4.8	8

#	Article	IF	Citations
91	Pore-interconnected hollow (Sn,Ti)O2 solid-solution nanoparticles for lithium-ion battery anode materials. Composites Part B: Engineering, 2019, 166, 613-620.	12.0	8
92	Gyroidal Niobium Sulfide/Carbon Hybrid Monoliths for Electrochemical Energy Storage. Batteries and Supercaps, 2019, 2, 668-672.	4.7	8
93	Interface fracture and chemistry of a tungsten-based metallization on borophosphosilicate glass. Philosophical Magazine, 2015, 95, 1967-1981.	1.6	6
94	Nonagglomerated Iron Oxyhydroxide Akaganeite Nanocrystals Incorporating Extraordinary High Amounts of Different Dopants. Chemistry of Materials, 2017, 29, 7223-7233.	6.7	6
95	On pinning-depinning and microkink-flow in solid state dewetting: Insights by in-situ ESEM on Al thin films. Acta Materialia, 2019, 165, 153-163.	7.9	6
96	Synthesis and Doping Strategies to Improve the Photoelectrochemical Water Oxidation Activity of BiVO₄ Photoanodes. Zeitschrift Fur Physikalische Chemie, 2020, 234, 655-682.	2.8	6
97	Nanoscale investigation on large crystallites in TiO2 nanotube arrays and implications for high-quality hybrid photodiodes. Journal of Materials Science, 2012, 47, 6459-6466.	3.7	5
98	High-Resolution Spectroscopy of Bonding in a Novel BeP2N4Compound. Microscopy and Microanalysis, 2014, 20, 664-670.	0.4	5
99	Insights into the structural, electronic, and magnetic properties of Fe2â˜x Ti x O3/Fe2O3 thin films with xÂ=Â0.44 grown on Al2O3 (0001). Journal of Materials Science, 2015, 50, 122-137.	3.7	5
100	Structural Changes of 2D Fe x Mn 1â˜ x O 2 Nanosheets for Lowâ€Temperature Growth of Carbon Nanotubes. Advanced Functional Materials, 2020, 30, 2003849.	14.9	5
101	Monitoring the Structure Evolution of Titanium Oxide Photocatalysts: From the Molecular Form via the Amorphous State to the Crystalline Phase. Chemistry - A European Journal, 2021, 27, 11600-11608.	3.3	5
102	Evaluation of functional layers thinning of high temperature polymer electrolyte membrane fuel cells after long term operation. Nanoscale, 2022, 14, 11543-11551.	5.6	5
103	Atomic Resolution Observation of the Oxidation of Niobium Oxide Nanowires: Implications for Renewable Energy Applications. ACS Applied Nano Materials, 2020, 3, 9285-9292.	5.0	4
104	Correlation between the TiO₂ encapsulation layer on Pt and its electrochemical behavior. Nanoscale Advances, 2021, 3, 5075-5082.	4.6	4
105	SANS Study of Carbon Addition in Tiâ€“45Alâ€“5Nb. Materials Research Society Symposia Proceedings, 2011, 1295, 195.	0.1	3
106	Insight in the 3D morphology of silica-based nanotubes using electron microscopy. Micron, 2016, 90, 6-11.	2.2	3
107	Facile and Robust Solvothermal Synthesis of Nanocrystalline CuInS2 Thin Films. Nanomaterials, 2018, 8, 405.	4.1	3
108	Exploring stability of a nanoscale complex solid solution thin film by in situ heating transmission electron microscopy. MRS Bulletin, 2022, 47, 371-378.	3.5	3

#	Article	IF	Citations
109	Fabrication and characterization of abrupt TiO2â€“SiOx core-shell nanowires by a simple heat treatment. APL Materials, 2017, 5, .	5.1	2
110	Structural and chemical characterization of MoO₂/MoS₂ triple-hybrid materials using electron microscopy in up to three dimensions. Nanoscale Advances, 2021, 3, 1067-1076.	4.6	2
111	Spontaneous fluctuations in a plasma ion assisted deposition â€“ correlation between deposition conditions and vanadium oxide thin film growth. Thin Solid Films, 2021, 722, 138574.	1.8	2
112	Complementary switching in single Nb3O7(OH) nanowires. APL Materials, 2021, 9, 071105.	5.1	2
113	Correlation between Structural Studies and the Cathodoluminescence of Individual Complex Niobate Particles. ACS Applied Electronic Materials, 2021, 3, 461-467.	4.3	2
114	Effects of Defect Density on Optical Properties Using Correlative Cathodoluminescence and Transmission Electron Microscopy Measurements on Identical PrNbO₄ Particles. ACS Applied Electronic Materials, 0, , .	4.3	1
115	Frontispiece: Irreversible Structural Changes of Copper Hexacyanoferrate Used as a Cathode in Znâ€ion Batteries. Chemistry - A European Journal, 2020, 26, .	3.3	0