

Christina Scheu

List of Publications by Year in descending order

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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	Defects in an orthorhombic MoAlB MAB phase thin film grown at moderate synthesis temperature. <i>Nanoscale</i> , 2022, 14, 2578-2585.	5.6	13
2	Exploring stability of a nanoscale complex solid solution thin film by in situ heating transmission electron microscopy. <i>MRS Bulletin</i> , 2022, 47, 371-378.	3.5	3
3	Evaluation of functional layers thinning of high temperature polymer electrolyte membrane fuel cells after long term operation. <i>Nanoscale</i> , 2022, 14, 11543-11551.	5.6	5
4	Dynamic doping and Cottrell atmosphere optimize the thermoelectric performance of n-type PbTe over a broad temperature interval. <i>Nano Energy</i> , 2022, 101, 107576.	16.0	16
5	Structural and chemical characterization of MoO ₂ /MoS ₂ triple-hybrid materials using electron microscopy in up to three dimensions. <i>Nanoscale Advances</i> , 2021, 3, 1067-1076.	4.6	2
6	Spontaneous fluctuations in a plasma ion assisted deposition – correlation between deposition conditions and vanadium oxide thin film growth. <i>Thin Solid Films</i> , 2021, 722, 138574.	1.8	2
7	Parallel Dislocation Networks and Cottrell Atmospheres Reduce Thermal Conductivity of PbTe Thermoelectrics. <i>Advanced Functional Materials</i> , 2021, 31, 2101214.	14.9	41
8	Monitoring the Structure Evolution of Titanium Oxide Photocatalysts: From the Molecular Form via the Amorphous State to the Crystalline Phase. <i>Chemistry - A European Journal</i> , 2021, 27, 11600-11608.	3.3	5
9	Complementary switching in single Nb ₃ O ₇ (OH) nanowires. <i>APL Materials</i> , 2021, 9, 071105.	5.1	2
10	Dopant-segregation to grain boundaries controls electrical conductivity of n-type NbCo(Pt)Sn half-Heusler alloy mediating thermoelectric performance. <i>Acta Materialia</i> , 2021, 217, 117147.	7.9	24
11	Dislocations Stabilized by Point Defects Increase Brittleness in PbTe. <i>Advanced Functional Materials</i> , 2021, 31, 2108006.	14.9	25
12	Correlation between the TiO ₂ encapsulation layer on Pt and its electrochemical behavior. <i>Nanoscale Advances</i> , 2021, 3, 5075-5082.	4.6	4
13	Correlation between Structural Studies and the Cathodoluminescence of Individual Complex Niobate Particles. <i>ACS Applied Electronic Materials</i> , 2021, 3, 461-467.	4.3	2
14	Direct MoB MBene domain formation in magnetron sputtered MoAlB thin films. <i>Nanoscale</i> , 2021, 13, 18077-18083.	5.6	18
15	Atomic-Scale Mapping of Impurities in Partially Reduced Hollow TiO ₂ Nanowires. <i>Angewandte Chemie - International Edition</i> , 2020, 59, 5651-5655.	13.8	42
16	Electrospun vanadium sulfide / carbon hybrid fibers obtained via one-step thermal sulfidation for use as lithium-ion battery electrodes. <i>Journal of Power Sources</i> , 2020, 450, 227674.	7.8	19
17	Revealing nano-chemistry at lattice defects in thermoelectric materials using atom probe tomography. <i>Materials Today</i> , 2020, 32, 260-274.	14.2	73
18	Rational strain engineering in delafossite oxides for highly efficient hydrogen evolution catalysis in acidic media. <i>Nature Catalysis</i> , 2020, 3, 55-63.	34.4	124

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19	Synthesis and Doping Strategies to Improve the Photoelectrochemical Water Oxidation Activity of BiVO ₄ Photoanodes. Zeitschrift Fur Physikalische Chemie, 2020, 234, 655-682.	2.8	6
20	Sn-Doped Hematite for Photoelectrochemical Water Splitting: The Effect of Sn Concentration. Zeitschrift Fur Physikalische Chemie, 2020, 234, 683-698.	2.8	10
21	Irreversible Structural Changes of Copper Hexacyanoferrate Used as a Cathode in Zn-Ion Batteries. Chemistry - A European Journal, 2020, 26, 4917-4922.	3.3	31
22	Microstructure evolution and thermal stability of equiatomic CoCrFeNi films on (0001) \pm -Al ₂ O ₃ . Acta Materialia, 2020, 200, 908-921.	7.9	12
23	Different Photostability of BiVO ₄ in Near-pH-Neutral Electrolytes. ACS Applied Energy Materials, 2020, 3, 9523-9527.	5.1	41
24	Structural Changes of 2D Fe x Mn 1 \times O 2 Nanosheets for Low-Temperature Growth of Carbon Nanotubes. Advanced Functional Materials, 2020, 30, 2003849.	14.9	5
25	Frontispiece: Irreversible Structural Changes of Copper Hexacyanoferrate Used as a Cathode in Zn-Ion Batteries. Chemistry - A European Journal, 2020, 26, .	3.3	0
26	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
27	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
28	Hydrophilic Silver Nanoparticles for Hg(II) Detection in Water: Direct Evidence for Mercury-Silver Interaction. Journal of Physical Chemistry C, 2020, 124, 25975-25983.	3.1	40
29	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
30	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
31	High-throughput characterization of Ag-V-O nanostructured thin-film materials libraries for photoelectrochemical solar water splitting. International Journal of Hydrogen Energy, 2020, 45, 12037-12047.	7.1	10
32	Synthesis of plasmonic Fe/Al nanoparticles in ionic liquids. RSC Advances, 2020, 10, 12891-12899.	3.6	14
33	Structural Evolution of Ni-Based Co-Catalysts on [Ca ₂ Nb ₃ O ₁₀] \times Nanosheets during Heating and Their Photocatalytic Properties. Catalysts, 2020, 10, 13.	3.5	9
34	Hydrothermally Grown TiO ₂ Nanorod Array Memristors with Volatile States. ACS Applied Materials & Interfaces, 2020, 12, 23363-23369.	8.0	19
35	Atomic level bonding mechanism in steel/aluminum joints produced by cold pressure welding. Materialia, 2019, 7, 100396.	2.7	14
36	Density, distribution and nature of planar faults in silver antimony telluride for thermoelectric applications. Acta Materialia, 2019, 178, 135-145.	7.9	13

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37	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
38	Synthesis and Properties of Orthorhombic MoAlB Coatings. Coatings, 2019, 9, 510.	2.6	17
39	Dissolution of BiVO ₄ Photoanodes Revealed by Time-Resolved Measurements under Photoelectrochemical Conditions. Journal of Physical Chemistry C, 2019, 123, 23410-23418.	3.1	47
40	Remote Tracking of Phase Changes in Cr ₂ AlC Thin Films by In-situ Resistivity Measurements. Scientific Reports, 2019, 9, 8266.	3.3	28
41	Enhanced Photoelectrochemical Water Oxidation Performance by Fluorine Incorporation in BiVO ₄ and Mo:BiVO ₄ Thin Film Photoanodes. ACS Applied Materials & Interfaces, 2019, 11, 16430-16442.	8.0	52
42	Toward a Paradigm Shift in Electrocatalysis Using Complex Solid Solution Nanoparticles. ACS Energy Letters, 2019, 4, 1206-1214.	17.4	140
43	Pore-interconnected hollow (Sn,Ti)O ₂ solid-solution nanoparticles for lithium-ion battery anode materials. Composites Part B: Engineering, 2019, 166, 613-620.	12.0	8
44	Gyroidal Niobium Sulfide/Carbon Hybrid Monoliths for Electrochemical Energy Storage. Batteries and Supercaps, 2019, 2, 668-672.	4.7	8
45	Degradation of iridium oxides <i>via</i> oxygen evolution from the lattice: correlating atomic scale structure with reaction mechanisms. Energy and Environmental Science, 2019, 12, 3548-3555.	30.8	147
46	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
47	Vanadium (III) Oxide/Carbon Core/Shell Hybrids as an Anode for Lithium-Ion Batteries. Batteries and Supercaps, 2019, 2, 74-82.	4.7	10
48	Modifying the nanostructure and the mechanical properties of Mo ₂ BC hard coatings: Influence of substrate temperature during magnetron sputtering. Materials and Design, 2018, 142, 203-211.	7.0	16
49	Ag-Segregation to Dislocations in PbTe-Based Thermoelectric Materials. ACS Applied Materials & Interfaces, 2018, 10, 3609-3615.	8.0	74
50	Atomic-scale insights into surface species of electrocatalysts in three dimensions. Nature Catalysis, 2018, 1, 300-305.	34.4	161
51	Challenges in TEM sample preparation of solvothermally grown CuInS ₂ films. Micron, 2018, 109, 1-10.	2.2	8
52	Controlling the Amorphous and Crystalline State of Multinary Alloy Nanoparticles in An Ionic Liquid. Nanomaterials, 2018, 8, 903.	4.1	31
53	Tailoring Thermoelectric Transport Properties of Ag-Alloyed PbTe: Effects of Microstructure Evolution. ACS Applied Materials & Interfaces, 2018, 10, 38994-39001.	8.0	17
54	Discovery of a Multinary Noble Metal-Free Oxygen Reduction Catalyst. Advanced Energy Materials, 2018, 8, 1802269.	19.5	227

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55	Time-resolved analysis of dissolution phenomena in photoelectrochemistry â€“ A case study of WO ₃ photocorrosion. <i>Electrochemistry Communications</i> , 2018, 96, 53-56.	4.7	34
56	Evaluation of EELS spectrum imaging data by spectral components and factors from multivariate analysis. <i>Microscopy (Oxford, England)</i> , 2018, 67, i133-i141.	1.5	59
57	Superior solar-to-hydrogen energy conversion efficiency by visible light-driven hydrogen production <i>via</i> highly reduced Ti ²⁺ /Ti ³⁺ states in a blue titanium dioxide photocatalyst. <i>Catalysis Science and Technology</i> , 2018, 8, 4657-4664.	4.1	30
58	Morphology, Optical Properties and Photocatalytic Activity of Photo- and Plasma-Deposited Au and Au/Ag Core/Shell Nanoparticles on Titania Layers. <i>Nanomaterials</i> , 2018, 8, 502.	4.1	13
59	Strain-Induced Asymmetric Line Segregation at Faceted Si Grain Boundaries. <i>Physical Review Letters</i> , 2018, 121, 015702.	7.8	65
60	Facile and Robust Solvothermal Synthesis of Nanocrystalline CuInS ₂ Thin Films. <i>Nanomaterials</i> , 2018, 8, 405.	4.1	3
61	Fracture toughness of Mo ₂ BC thin films: Intrinsic toughness versus system toughening. <i>Materials and Design</i> , 2018, 154, 20-27.	7.0	38
62	Thermal stability of nanocomposite Mo ₂ BC hard coatings deposited by magnetron sputtering. <i>Surface and Coatings Technology</i> , 2018, 349, 378-383.	4.8	8
63	Growth of Porous Platinum Catalyst Structures on Tungsten Oxide Support Materials: A New Design for Electrodes. <i>Crystal Growth and Design</i> , 2017, 17, 1661-1668.	3.0	8
64	A biomolecule-assisted, cost-efficient route for growing tunable CuInS ₂ films for green energy application. <i>RSC Advances</i> , 2017, 7, 20219-20230.	3.6	12
65	Simultaneous optimization of electrical and thermal transport properties of Bi _{0.5} Sb _{1.5} Te ₃ thermoelectric alloy by twin boundary engineering. <i>Nano Energy</i> , 2017, 37, 203-213.	16.0	164
66	Microstructural evolution and solid state dewetting of epitaxial Al thin films on sapphire (Î±-Al ₂ O ₃). <i>Acta Materialia</i> , 2017, 133, 356-366.	7.9	34
67	Role of Vacancy Condensation in the Formation of Voids in Rutile TiO ₂ Nanowires. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 13471-13479.	8.0	31
68	Role of Nanostructuring and Microstructuring in Silver Antimony Telluride Compounds for Thermoelectric Applications. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 14779-14790.	8.0	28
69	Nanostructure of and structural defects in a Mo ₂ BC hard coating investigated by transmission electron microscopy and atom probe tomography. <i>Journal of Applied Physics</i> , 2017, 122, .	2.5	11
70	Annealing induced void formation in epitaxial Al thin films on sapphire (Î±-Al ₂ O ₃). <i>Acta Materialia</i> , 2017, 140, 355-365.	7.9	19
71	Mo-doped BiVO ₄ thin films â€“ high photoelectrochemical water splitting performance achieved by a tailored structure and morphology. <i>Sustainable Energy and Fuels</i> , 2017, 1, 1830-1846.	4.9	72
72	Accelerated fuel cell tests of anodic Pt/Ru catalyst via identical location TEM: New aspects of degradation behavior. <i>International Journal of Hydrogen Energy</i> , 2017, 42, 25359-25371.	7.1	36

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73	Fabrication and characterization of abrupt TiO ₂ @SiO _x core-shell nanowires by a simple heat treatment. <i>APL Materials</i> , 2017, 5, .	5.1	2
74	Nonagglomerated Iron Oxyhydroxide Akaganeite Nanocrystals Incorporating Extraordinary High Amounts of Different Dopants. <i>Chemistry of Materials</i> , 2017, 29, 7223-7233.	6.7	6
75	Tuning the Electronic Conductivity in Hydrothermally Grown Rutile TiO ₂ Nanowires: Effect of Heat Treatment in Different Environments. <i>Nanomaterials</i> , 2017, 7, 289.	4.1	16
76	Unraveling micro- and nanoscale degradation processes during operation of high-temperature polymer-electrolyte-membrane fuel cells. <i>Journal of Power Sources</i> , 2017, 364, 437-448.	7.8	17
77	Insight in the 3D morphology of silica-based nanotubes using electron microscopy. <i>Micron</i> , 2016, 90, 6-11.	2.2	3
78	Theoretical and Experimental Study on the Optoelectronic Properties of Nb ₃ O ₇ (OH) and Nb ₂ O ₅ Photoelectrodes. <i>Journal of Physical Chemistry C</i> , 2016, 120, 23329-23338.	3.1	22
79	Heat-Induced Phase Transformation of Three-Dimensional Nb ₃ O ₇ (OH) Superstructures: Effect of Atmosphere and Electron Beam. <i>Crystal Growth and Design</i> , 2016, 16, 4309-4317.	3.0	11
80	Titanium Doping and Its Effect on the Morphology of Three-Dimensional Hierarchical Nb ₃ O ₇ (OH) Nanostructures for Enhanced Light-Induced Water Splitting. <i>Chemistry of Materials</i> , 2016, 28, 7666-7672.	6.7	8
81	Ca _{18.75} Li _{10.5} [Al ₃₉ N ₅₅]:Eu ²⁺ Supertetrahedron Phosphor for Solid-State Lighting. <i>Chemistry of Materials</i> , 2016, 28, 1220-1226.	6.7	47
82	Are Mo ₂ BC nanocrystalline coatings damage resistant? Insights from comparative tension experiments. <i>Surface and Coatings Technology</i> , 2016, 289, 213-218.	4.8	29
83	Influence of membrane type and molecular weight distribution on the degradation of PBI-based HTPEM fuel cells. <i>Journal of Membrane Science</i> , 2016, 509, 27-35.	8.2	29
84	Interface fracture and chemistry of a tungsten-based metallization on borophosphosilicate glass. <i>Philosophical Magazine</i> , 2015, 95, 1967-1981.	1.6	6
85	Transmission electron microscopy study of silica reinforced polybenzimidazole membranes. <i>Journal of Membrane Science</i> , 2015, 478, 65-74.	8.2	16
86	Insight into the Degradation of HT-PEMFCs Containing Tungsten Oxide Catalyst Support Material for the Anode. <i>Journal of the Electrochemical Society</i> , 2015, 162, F280-F290.	2.9	8
87	Defeating Loss Mechanisms in 1D TiO ₂ -Based Hybrid Solar Cells. <i>Advanced Functional Materials</i> , 2015, 25, 2601-2608.	14.9	18
88	Iron-Doped Nickel Oxide Nanocrystals as Highly Efficient Electrocatalysts for Alkaline Water Splitting. <i>ACS Nano</i> , 2015, 9, 5180-5188.	14.6	446
89	Insights into the structural, electronic, and magnetic properties of Fe ₂ xTi _x O ₃ /Fe ₂ O ₃ thin films with x=0.44 grown on Al ₂ O ₃ (0001). <i>Journal of Materials Science</i> , 2015, 50, 122-137.	3.7	5
90	Influence of the size and shape of silica nanoparticles on the properties and degradation of a PBI-based high temperature polymer electrolyte membrane. <i>Journal of Membrane Science</i> , 2014, 454, 12-19.	8.2	49

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91	Ca[LiAl ₃ N ₄]:Eu ²⁺ A Narrow-Band Red-Emitting Nitridolithoaluminate. Chemistry of Materials, 2014, 26, 3544-3549.	6.7	201
92	Template-free synthesis of novel, highly-ordered 3D hierarchical Nb ₃ O ₇ (OH) superstructures with semiconductive and photoactive properties. Journal of Materials Chemistry A, 2014, 2, 12005.	10.3	18
93	Cation exchange synthesis and optoelectronic properties of type II CdTe/Cu ₂ xTe nano-heterostructures. Journal of Materials Chemistry C, 2014, 2, 3189.	5.5	29
94	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
95	Control of Recombination Pathways in TiO ₂ Nanowire Hybrid Solar Cells Using Sn ⁴⁺ Dopants. Journal of Physical Chemistry C, 2014, 118, 16672-16679.	3.1	24
96	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
97	TEM preparation methods and influence of radiation damage on the beam sensitive CaCO ₃ shell of <i>Emiliana huxleyi</i> . Micron, 2014, 62, 28-36.	2.2	11
98	Narrow-band red-emitting Sr[LiAl ₃ N ₄]:Eu ²⁺ as a next-generation LED-phosphor material. Nature Materials, 2014, 13, 891-896.	27.5	1,217
99	High-Resolution Spectroscopy of Bonding in a Novel BeP ₂ N ₄ Compound. Microscopy and Microanalysis, 2014, 20, 664-670.	0.4	5
100	Platinum-cobalt catalysts for the oxygen reduction reaction in high temperature proton exchange membrane fuel cells – Long term behavior under ex-situ and in-situ conditions. Journal of Power Sources, 2014, 266, 313-322.	7.8	43
101	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
102	Insight into the core-shell structures of Cu-In-S microspheres. Solid State Sciences, 2013, 26, 23-30.	3.2	8
103	Band Gap Tuning in Poly(triazine imide), a Nonmetallic Photocatalyst. Journal of Physical Chemistry C, 2013, 117, 8806-8812.	3.1	47
104	Tungsten materials as durable catalyst supports for fuel cell electrodes. Journal of Power Sources, 2013, 243, 472-480.	7.8	23
105	Direct observation of interface and nanoscale compositional modulation in ternary III-As heterostructure nanowires. Applied Physics Letters, 2013, 103, .	3.3	15
106	Nanoscale investigation on large crystallites in TiO ₂ nanotube arrays and implications for high-quality hybrid photodiodes. Journal of Materials Science, 2012, 47, 6459-6466.	3.7	5
107	Synthesis and characterization of CuInS ₂ thin film structures. Journal of Materials Science, 2012, 47, 1669-1676.	3.7	8
108	SANS Study of Carbon Addition in Ti-45Al-5Nb. Materials Research Society Symposia Proceedings, 2011, 1295, 195.	0.1	3

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109	A Novel Buffering Technique for Aqueous Processing of Zinc Oxide Nanostructures and Interfaces, and Corresponding Improvement of Electrodeposited ZnO/Cu ₂ O Photovoltaics. <i>Advanced Functional Materials</i> , 2011, 21, 573-582.	14.9	122
110	Effects of thermal annealing on the microstructure of sputtered Al ₂ O ₃ coatings. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2011, 29, .	2.1	25
111	Influence of strain on the electronic structure of the TbMnO ₃ /SrTiO ₃ epitaxial interface. <i>Applied Physics Letters</i> , 2011, 99, .	3.3	9
112	Strong Efficiency Improvements in Ultra-low-Cost Inorganic Nanowire Solar Cells (<i>Adv. Mater.</i>)	21.0	8
113	Oscillatory Mass Transport in Vapor-Liquid-Solid Growth of Sapphire Nanowires. <i>Science</i> , 2010, 330, 489-493.	12.6	166
114	Control of bonding and epitaxy at copper/sapphire interface. <i>Applied Physics Letters</i> , 2007, 91, 141912.	3.3	21
115	Effects of Defect Density on Optical Properties Using Correlative Cathodoluminescence and Transmission Electron Microscopy Measurements on Identical PrNbO ₄ Particles. <i>ACS Applied Electronic Materials</i> , 0, , .	4.3	1