

Sebastian Siol

List of Publications by Year in descending order

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56
papers

1,890
citations

304743

22
h-index

265206

42
g-index

59
all docs

59
docs citations

59
times ranked

3634
citing authors

#	ARTICLE	IF	CITATIONS
1	Perovskite ink with wide processing window for scalable high-efficiency solar cells. Nature Energy, 2017, 2, .	39.5	499
2	Perovskite-Inspired Photovoltaic Materials: Toward Best Practices in Materials Characterization and Calculations. Chemistry of Materials, 2017, 29, 1964-1988.	6.7	116
3	Band Alignment Engineering at Cu ₂ O/ZnO Heterointerfaces. ACS Applied Materials & Interfaces, 2016, 8, 21824-21831.	8.0	101
4	Photocorrosion-resistant Sb ₂ Se ₃ photocathodes with earth abundant MoS _x hydrogen evolution catalyst. Journal of Materials Chemistry A, 2017, 5, 23139-23145.	10.3	83
5	Combinatorial Reactive Sputtering of In ₂ S ₃ as an Alternative Contact Layer for Thin Film Solar Cells. ACS Applied Materials & Interfaces, 2016, 8, 14004-14011.	8.0	67
6	Intrinsic energy band alignment of functional oxides. Physica Status Solidi - Rapid Research Letters, 2014, 8, 571-576.	2.4	60
7	Role of Carbonaceous Supports and Potassium Promoter on Higher Alcohols Synthesis over Copper-Iron Catalysts. ACS Catalysis, 2018, 8, 9604-9618.	11.2	58
8	Hard x-ray photoelectron spectroscopy: a snapshot of the state-of-the-art in 2020. Journal of Physics Condensed Matter, 2021, 33, 233001.	1.8	55
9	Implications of heterostructural alloying for enhanced piezoelectric performance of (Al,Sc)N. Physical Review Materials, 2018, 2, .	2.4	47
10	Novel phase diagram behavior and materials design in heterostructural semiconductor alloys. Science Advances, 2017, 3, e1700270.	10.3	46
11	Stable and tunable phosphonic acid dipole layer for band edge engineering of photoelectrochemical and photovoltaic heterojunction devices. Energy and Environmental Science, 2019, 12, 1901-1909.	30.8	41
12	Influence of dipping cycles on physical, optical, and electrical properties of Cu ₂ NiSnS ₄ : Direct solution dip coating for photovoltaic applications. Journal of Alloys and Compounds, 2017, 725, 510-518.	5.5	36
13	<i>In situ</i> oxidation studies of Cu thin films: Growth kinetics and oxide phase evolution. Journal of Applied Physics, 2020, 127, .	2.5	35
14	Negative-pressure polymorphs made by heterostructural alloying. Science Advances, 2018, 4, eaaq1442.	10.3	34
15	Sb ₂ S ₃ /TiO ₂ Heterojunction Photocathodes: Band Alignment and Water Splitting Properties. Chemistry of Materials, 2020, 32, 7247-7253.	6.7	34
16	Combinatorial In Situ Photoelectron Spectroscopy Investigation of Sb ₂ Se ₃ /ZnS Heterointerfaces. Advanced Materials Interfaces, 2016, 3, 1600755.	3.7	28
17	Optoelectronic Properties of Strontium and Barium Copper Sulfides Prepared by Combinatorial Sputtering. Chemistry of Materials, 2017, 29, 8239-8248.	6.7	28
18	Concepts for chemical state analysis at constant probing depth by lab-based XPS/HAXPES combining soft and hard X-ray sources. Surface and Interface Analysis, 2020, 52, 802-810.	1.8	28

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19	PVD of copper sulfide (Cu ₂ S) for PIN-structured solar cells. Journal Physics D: Applied Physics, 2013, 46, 495112.	2.8	27
20	Design of Metastable Tin Titanium Nitride Semiconductor Alloys. Chemistry of Materials, 2017, 29, 6511-6517.	6.7	27
21	Carbon nanofibres-supported KCoMo catalysts for syngas conversion into higher alcohols. Catalysis Science and Technology, 2018, 8, 187-200.	4.1	24
22	Effect of internal stress on short-circuit diffusion in thin films and nanolaminates: Application to Cu/W nano-multilayers. Applied Surface Science, 2020, 508, 145254.	6.1	24
23	Copper (I) Oxide (Cu ₂ O) based back contact for μ c-Si CdTe solar cells. Progress in Photovoltaics: Research and Applications, 2016, 24, 1229-1236.	8.1	23
24	Combinatorial Chemical Bath Deposition of CdS Contacts for Chalcogenide Photovoltaics. ACS Combinatorial Science, 2016, 18, 583-589.	3.8	23
25	Effect of the individual layer thickness on the transformation of Cu/W nano-multilayers into nanocomposites. Materialia, 2019, 7, 100400.	2.7	23
26	Stabilization of wide band-gap p-type wurtzite MnTe thin films on amorphous substrates. Journal of Materials Chemistry C, 2018, 6, 6297-6304.	5.5	21
27	Highly conductive grain boundaries in copper oxide thin films. Journal of Applied Physics, 2016, 119, .	2.5	20
28	Using heterostructural alloying to tune the structure and properties of the thermoelectric Sn _{1-x} Ca _x Se. Journal of Materials Chemistry A, 2017, 5, 16873-16882.	10.3	19
29	Sulfur Treatment Passivates Bulk Defects in Sb ₂ Se ₃ Photocathodes for Water Splitting. Advanced Functional Materials, 2022, 32, .	14.9	18
30	Automated algorithms for band gap analysis from optical absorption spectra. Materials Discovery, 2017, 10, 43-52.	3.3	17
31	Synthesis and Characterization of (Sn,Zn)O Alloys. Chemistry of Materials, 2016, 28, 7765-7772.	6.7	16
32	Cu ₂ S as ohmic back contact for CdTe solar cells. Thin Solid Films, 2015, 582, 336-339.	1.8	14
33	Solubility limits in quaternary SnTe-based alloys. RSC Advances, 2017, 7, 24747-24753.	3.6	14
34	CO ₂ -Promoted Catalytic Process Forming Higher Alcohols with Tunable Nature at Record Productivity. ChemCatChem, 2020, 12, 2732-2744.	3.7	14
35	Zinc-Stabilized Manganese Telluride with Wurtzite Crystal Structure. Journal of Physical Chemistry C, 2018, 122, 18769-18775.	3.1	13
36	Electron scattering mechanisms in polycrystalline sputtered zinc tin oxynitride thin films. Journal of Applied Physics, 2019, 126, 035701.	2.5	13

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37	A combinatorial guide to phase formation and surface passivation of tungsten titanium oxide prepared by thermal oxidation. <i>Acta Materialia</i> , 2020, 186, 95-104.	7.9	12
38	Synthesis and Characterization of the Ternary Nitride Semiconductor Zn ₂ VN ₃ : Theoretical Prediction, Combinatorial Screening, and Epitaxial Stabilization. <i>Chemistry of Materials</i> , 2021, 33, 9306-9316.	6.7	12
39	An Activated TiCâ€“SiC Composite for Natural Gas Upgrading via Catalytic Oxyhalogenation. <i>ChemCatChem</i> , 2018, 10, 1282-1290.	3.7	11
40	IIIâ€“V Solar Cells Grown on Unpolished and Reusable Spalled Ge Substrates. <i>IEEE Journal of Photovoltaics</i> , 2018, 8, 1384-1389.	2.5	11
41	<i>Operando</i> electrochemical study of charge carrier processes in water splitting photoanodes protected by atomic layer deposited TiO ₂ . <i>Sustainable Energy and Fuels</i> , 2019, 3, 3085-3092.	4.9	11
42	Thiolâ€“Amineâ€“Based Solution Processing of Cu ₂ S Thin Films for Photoelectrochemical Water Splitting. <i>ChemSusChem</i> , 2021, 14, 3967-3974.	6.8	10
43	Bi ₂ O ₂ CO ₃ Growth at Room Temperature: In Situ X-ray Diffraction Monitoring and Thermal Behavior. <i>ACS Omega</i> , 2017, 2, 8213-8221.	3.5	9
44	Design of Molecular Water Oxidation Catalysts Stabilized by Ultrathin Inorganic Overlayersâ€“Is Active Site Protection Necessary?. <i>Inorganics</i> , 2018, 6, 105.	2.7	9
45	Preparative History vs Driving Force in Water Oxidation Catalysis: Parameter Space Studies of Cobalt Spinels. <i>ACS Omega</i> , 2019, 4, 15444-15456.	3.5	9
46	Detailed photoluminescence studies of thin film Cu ₂ S for determination of quasi-Fermi level splitting and defect levels. <i>Journal of Applied Physics</i> , 2013, 114, 233506.	2.5	8
47	Anodizing of Self-Passivating W _x Ti _{1-x} Precursors for W _x Ti _{1-x} O _n Oxide Alloys with Tailored Stability. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 9510-9518.	8.0	8
48	Microwave-Hydrothermal Tuning of Spinel-Type Co ₃ O ₄ Water Oxidation Catalysts. <i>Frontiers in Chemistry</i> , 2020, 8, 473.	3.6	8
49	Templated Growth of Metastable Polymorphs on Amorphous Substrates with Seed Layers. <i>Physical Review Applied</i> , 2020, 13, .	3.8	7
50	Chemical state analysis of reactively sputtered zinc vanadium nitride: The Auger parameter as a tool in materials design. <i>Applied Surface Science</i> , 2022, 601, 154172.	6.1	7
51	Accessing Metastability in Heterostructural Semiconductor Alloys. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2019, 216, 1800858.	1.8	4
52	Electrochemical ruthenium-catalysed Câ€“H activation in water through heterogenization of a molecular catalyst. <i>Catalysis Science and Technology</i> , 2022, 12, 1512-1519.	4.1	4
53	Wurtzite materials in alloys of rock salt compounds. <i>Journal of Materials Research</i> , 2020, 35, 972-980.	2.6	2
54	Spectral Calibrated and Confocal Photoluminescence of Cu ₂ S Thin-Film Absorber. <i>Materials Research Society Symposia Proceedings</i> , 2013, 1538, 191-196.	0.1	1

#	ARTICLE	IF	CITATIONS
55	Device engineering towards improved tin sulfide solar cell performance and performance reproducibility. , 2016, ,		1
56	Cooling and Trapping of Neutral Mercury Atoms in a Magneto-Optical Trap. , 2010, ,		0