Sascha Sadewasser

List of Publications by Year in Descending Order

121 papers	3,421 citations	33 h-index	55 g-index
128 ext. papers	3,736 ext. citations	4.6 avg, IF	5.15 L-index

#	Paper	IF	Citations
121	Merging Solution Processing and Printing for Sustainable Fabrication of Cu(In,Ga)Se2 Photovoltaics. *Chemical Engineering Journal*, **2022**, 136188	14.7	1
120	Efficient ReSe Photodetectors with CVD Single-Crystal Graphene Contacts. *Nanomaterials*, **2021**, 11,	5.4	5
119	Grain Boundaries in Cu(In, Ga)Se2: A Review of Composition□Electronic Property Relationships by Atom Probe Tomography and Correlative Microscopy. *Advanced Functional Materials*, **2021**, 31, 2103119	15.6	6
118	Role of sublimation kinetics of ammonia borane in chemical vapor deposition of uniform, large-area hexagonal boron nitride. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **2021**, 39, 042202	2.9	1
117	Wafer-Scale Fabrication of 2D □In 2 Se 3 Photodetectors. *Advanced Optical Materials*, **2021**, 9, 2001034	8.1	12
116	Van der Waals Epitaxy of Ultrathin □In2Se3 on Insulators Used in Standard Silicon Microelectronics Technology. *Crystal Growth and Design*, **2021**, 21, 5268-5274	3.5	
115	Atomic-Scale Interface Modification Improves the Performance of Cu(InGa)Se/Zn(O,S) Heterojunction Solar Cells. *ACS Applied Materials & Interfaces*, **2021**, 13, 44207-44213	9.5	0
114	Effect of Cu-In-Ga Target Composition on Hybrid-Sputtered Cu(In,Ga)Se2 Solar Cells. *IEEE Journal of Photovoltaics*, **2021**, 11, 1206-1212	3.7	0
113	Over 6% Efficient Cu(In,Ga)Se2 Solar Cell Screen-Printed from Oxides on Fluorine-Doped Tin Oxide. *ACS Applied Energy Materials*, **2020**, 3, 3120-3126	6.1	6
112	System for manufacturing complete Cu(In,Ga)Se2 solar cells in situ under vacuum. *Solar Energy*, **2020**, 198, 490-498	6.8	4
111	Heavy Alkali Treatment of Cu(In,Ga)Se2 Solar Cells: Surface versus Bulk Effects. *Advanced Energy Materials*, **2020**, 10, 1903752	21.8	68
110	Chemical instability at chalcogenide surfaces impacts chalcopyrite devices well beyond the surface. *Nature Communications*, **2020**, 11, 3634	17.4	18
109	Micro-sized thin-film solar cells via area-selective electrochemical deposition for concentrator photovoltaics application. *Scientific Reports*, **2020**, 10, 14763	4.9	4
108	Thin-film micro-concentrator solar cells. *JPhys Energy*, **2020**, 2, 012001	4.9	7
107	Direct evidence for grain boundary passivation in Cu(In,Ga)Se solar cells through alkali-fluoride post-deposition treatments. *Nature Communications*, **2019**, 10, 3980	17.4	52
106	CuInSe quantum dots grown by molecular beam epitaxy on amorphous SiO surfaces. *Beilstein Journal of Nanotechnology*, **2019**, 10, 1103-1111	3	3
105	Template-directed self-organization of colloidal PbTe nanocrystals into pillars, conformal coatings, and self-supported membranes. *Nanoscale Advances*, **2019**, 1, 3049-3055	5.1	5

104	Giant Voc Boost of Low-Temperature Annealed Cu(In,Ga)Se2 with Sputtered Zn(O,S) Buffers. *Physica Status Solidi - Rapid Research Letters*, **2019**, 13, 1900145	2.5	4
103	Area-selective electrodeposition of micro islands for CuInSe2-based photovoltaics. *Results in Physics*, **2019**, 12, 2136-2140	3.7	5
102	Voids in Kesterites and the Influence of Lamellae Preparation by Focused Ion Beam for Transmission Electron Microscopy Analyses. *IEEE Journal of Photovoltaics*, **2019**, 9, 565-570	3.7	
101	Time-Resolved Electrostatic and Kelvin Probe Force Microscopy. *Springer Series in Surface Sciences*, **2018**, 119-143	0.4	9
100	Experimental Technique and Working Modes. *Springer Series in Surface Sciences*, **2018**, 3-22	0.4	2
99	AFM oxidation of Ti for nanoscale IC applications **2018**, 665-668		
98	Passivation of Interfaces in Thin Film Solar Cells: Understanding the Effects of a Nanostructured Rear Point Contact Layer. *Advanced Materials Interfaces*, **2018**, 5, 1701101	4.6	36
97	Artifacts in time-resolved Kelvin probe force microscopy. *Beilstein Journal of Nanotechnology*, **2018**, 9, 1272-1281	3	6
96	Impact of KF Post-Deposition Treatment on Aging of the Cu(In,Ga)Se2 Surface and Its Interface with CdS. *ACS Applied Energy Materials*, **2018**, 1, 2681-2688	6.1	9
95	. *IEEE Journal of Photovoltaics*, **2017**, 7, 670-675	3.7	20
94	Effect of the KF post-deposition treatment on grain boundary properties in Cu(In, Ga)Se thin films. *Scientific Reports*, **2017**, 7, 41361	4.9	60
93	Cd and Cu Interdiffusion in Cu(In, Ga)Se2/CdS Hetero-Interfaces. *IEEE Journal of Photovoltaics*, **2017**, 7, 858-863	3.7	20
92	Geometry and materials considerations for thin film micro-concentrator solar cells. *Solar Energy*, **2017**, 158, 186-191	6.8	4
91	High Efficiency Solar Cell Based on Full PVD Processed Cu(In,Ga)Se2/CdIn2S4 Heterojunction. *Solar Rrl*, **2017**, 1, 1700140	7.1	14
90	Rapid Shutdown with Panel Level Electronics-A suitable safety measure? **2017**,		1
89	Epitaxial CuInSe2 thin films grown by molecular beam epitaxy and migration enhanced epitaxy. *Journal of Crystal Growth*, **2017**, 475, 300-306	1.6	8
88	Evidence for Chemical and Electronic Nonuniformities in the Formation of the Interface of RbF-Treated Cu(In,Ga)Se with CdS. *ACS Applied Materials & Interfaces*, **2017**, 9, 44173-44180	9.5	20
87	CdS and Zn1�SnxOy buffer layers for CIGS solar cells. *Solar Energy Materials and Solar Cells*, **2017**, 159, 272-281	6.4	44

86	Materials efficient deposition and heat management of CuInSe2 micro-concentrator solar cells. *Solar Energy Materials and Solar Cells*, **2017**, 159, 496-502	6.4	24
85	Synthesis and formation mechanism of CuInSe2 nanowires by one-step self-catalysed evaporation growth. *CrystEngComm*, **2016**, 18, 7147-7153	3.3	6
84	Scanning Probe Microscopy on Inorganic Thin Films for Solar Cells **2016**, 343-369		
83	. *IEEE Journal of Photovoltaics*, **2016**, 6, 332-336	3.7	42
82	Growth of CuInSe2 nanowires without external catalyst by molecular beam epitaxy **2016**,		1
81	Optical and structural investigation of Cu2ZnSnS4 based solar cells. *Physica Status Solidi (B): Basic Research*, **2016**, 253, 2129-2135	1.3	4
80	Incorporation of alkali metals in chalcogenide solar cells. *Solar Energy Materials and Solar Cells*, **2015**, 143, 9-20	6.4	96
79	**2015**,		2
78	Properties of electronic potential barriers at grain boundaries in Cu(In,Ga)Se 2 thin films. *Solar Energy Materials and Solar Cells*, **2014**, 130, 124-131	6.4	33
77	Reliable wet-chemical cleaning of natively oxidized high-efficiency Cu(In,Ga)Se2 thin-film solar cell absorbers. *Journal of Applied Physics*, **2014**, 116, 233502	2.5	32
76	. *IEEE Journal of Photovoltaics*, **2014**, 4, 1644-1649	3.7	57
75	A one-dimensional Fickian model to predict the Ga depth profiles in three-stage Cu(In,Ga)Se2. *Journal of Applied Physics*, **2014**, 115, 204913	2.5	14
74	Electroluminescence of copper-nitride nanocrystals. *Physical Review B*, **2014**, 90,	3.3	13
73	Chalcopyrite Quantum Wells and Dots in Solar-Cell Applications. *Springer Series in Materials Science*, **2014**, 115-130	0.9	1
72	Comparative study of Cu(In,Ga)Se2/CdS and Cu(In,Ga)Se2/In2S3 systems by surface photovoltage techniques. *Thin Solid Films*, **2013**, 535, 357-361	2.2	24
71	Electronic properties of grain boundaries in Cu(In,Ga)Se2 thin films with various Ga-contents. *Solar Energy Materials and Solar Cells*, **2012**, 103, 86-92	6.4	21
70	Junction formation of Cu(3)BiS(3) investigated by Kelvin probe force microscopy and surface photovoltage measurements. *Beilstein Journal of Nanotechnology*, **2012**, 3, 277-84	3	14
69	Scanning probe microscopy of solar cells: From inorganic thin films to organic photovoltaics. *MRS Bulletin*, **2012**, 37, 642-650	3.2	27

68	Electrostatic Force Microscopy And Kelvin Probe Force Microscopy **2012**, 1		2
67	Zinc diffusion in polycrystalline Cu(In,Ga)Se2 and single-crystal CuInSe2 layers. *Applied Physics Letters*, **2012**, 101, 074105	3.4	20
66	Electrostatic potentials at Cu(In,Ga)Se2 grain boundaries: experiment and simulations. *Physical Review Letters*, **2012**, 109, 095506	7.4	33
65	Toward quantitative Kelvin probe force microscopy of nanoscale potential distributions. *Physical Review B*, **2012**, 85,	3.3	34
64	Symmetry-dependence of electronic grain boundary properties in polycrystalline CuInSe2 thin films. *Applied Physics Letters*, **2011**, 99, 172102	3.4	32
63	Tetrahedral chalcopyrite quantum dots for solar-cell applications. *Applied Physics Letters*, **2011**, 99, 111907	3.4	13
62	Fast Growth of High Work Function and High-Quality ZnO Nanorods from an Aqueous Solution. *Journal of Physical Chemistry C*, **2011**, 115, 5239-5243	3.8	20
61	Nanometer-scale electronic and microstructural properties of grain boundaries in Cu(In,Ga)Se2. *Thin Solid Films*, **2011**, 519, 7341-7346	2.2	42
60	Electronic and morphological properties of the electrochemically prepared step bunched silicon (111) surface. *Physica Status Solidi (B): Basic Research*, **2011**, 248, 361-369	1.3	9
59	Chalcopyrite Semiconductors for Quantum Well Solar Cells. *Advanced Energy Materials*, **2011**, 1, 1109-1115	15.8	7
58	Scanning Probe Microscopy on Inorganic Thin Films for Solar Cells **2011**, 275-298		2
57	Nanoscale investigations of the electronic surface properties of Cu(In,Ga)Se2 thin films by scanning tunneling spectroscopy. *Solar Energy Materials and Solar Cells*, **2011**, 95, 1537-1543	6.4	16
56	Transient surface photovoltage of p-type Cu3BiS3. *Applied Physics Letters*, **2010**, 96, 082113	3.4	47
55	Local surface photovoltage spectroscopy of Cu-phthalocyanine clusters on different substrates. *Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics*, **2010**, 28, C4D29-C4D33	1.3	7
54	Direct evidence for a reduced density of deep level defects at grain boundaries of Cu(In,Ga)Se2 thin films. *Physical Review Letters*, **2010**, 105, 116802	7.4	59
53	Large neutral barrier at grain boundaries in chalcopyrite thin films. *Physical Review Letters*, **2010**, 104, 196602	7.4	69
52	Optoelectronic evaluation of the nanostructuring approach to chalcopyrite-based intermediate band materials. *Solar Energy Materials and Solar Cells*, **2010**, 94, 1912-1918	6.4	14
51	Three-dimensional structure of the buffer/absorber interface in CdS/CuGaSe2 based thin film solar cells. *Applied Physics Letters*, **2009**, 95, 173502	3.4	23

50	Combined analysis of spatially resolved electronic structure and composition on a cross-section of a thin film Cu(In1� Gax)S2 solar cell. *Physica Status Solidi (A) Applications and Materials Science*, **2009**, 206, 1017-1020	1.6	23
49	Locally resolved surface photo voltage spectroscopy on Zn-doped CuInS2 polycrystalline thin films. *Thin Solid Films*, **2009**, 517, 2349-2352	2.2	22
48	The influence of surface topography on Kelvin probe force microscopy. *Nanotechnology*, **2009**, 20, 505503	3.4	44
47	Surface photovoltage spectroscopy in a Kelvin probe force microscope under ultrahigh vacuum. *Review of Scientific Instruments*, **2009**, 80, 013907	1.7	29
46	New insights on atomic-resolution frequency-modulation Kelvin-probe force-microscopy imaging of semiconductors. *Physical Review Letters*, **2009**, 103, 266103	7.4	129
45	Surface photovoltage analysis of thin CdS layers on polycrystalline chalcopyrite absorber layers by Kelvin probe force microscopy. *Nanotechnology*, **2008**, 19, 145705	3.4	27
44	Microscopic investigation of the CdS buffer layer growth on Cu(In,Ga)Se2 absorbers. *Journal of Vacuum Science & Technology B*, **2008**, 26, 901		4
43	A � grain boundary in an epitaxial chalcopyrite film. *Thin Solid Films*, **2007**, 515, 6168-6171	2.2	8
42	Microscopic characterization of individual grain boundaries in Cu-III�VI2 chalcopyrites. *Thin Solid Films*, **2007**, 515, 6136-6141	2.2	15
41	Comment on "electrostatic force microscopy on oriented graphite surfaces: coexistence of insulating and conducting behaviors". *Physical Review Letters*, **2007**, 98, 269701; discussion 269702	7.4	20
40	Growth and Characterization of Chalcopyrite Nanocrystals: Beyond Conventional Thin Films. *Materials Research Society Symposia Proceedings*, **2007**, 1012, 1		2
39	A Neutral Barrier at CGS Grain Boundaries - Compositional and Structural Dependencies. *Materials Research Society Symposia Proceedings*, **2007**, 1012, 1		4
38	Modified atomic force microscopy cantilever design to facilitate access of higher modes of oscillation. *Review of Scientific Instruments*, **2006**, 77, 073703	1.7	21
37	Integrated tunneling sensor for nanoelectromechanical systems. *Applied Physics Letters*, **2006**, 89, 173101	3.4	6
36	Evaluation of Kelvin probe force microscopy for imaging grain boundaries in chalcopyrite thin films. *Applied Physics Letters*, **2006**, 89, 113120	3.4	38
35	Special cantilever geometry for the access of higher oscillation modes in atomic force microscopy. *Applied Physics Letters*, **2006**, 89, 033106	3.4	37
34	Formation of the physical vapor deposited CdS�Cu(In,Ga)Se2 interface in highly efficient thin film solar cells. *Applied Physics Letters*, **2006**, 88, 143510	3.4	33
33	Evidence for a neutral grain-boundary barrier in chalcopyrites. *Physical Review Letters*, **2006**, 97, 146601	7.4	84

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32	Surface potential of chalcopyrite films measured by KPFM. *Physica Status Solidi (A) Applications and Materials Science*, **2006**, 203, 2571-2580	1.6	30
31	Texture and electronic activity of grain boundaries in Cu(In,Ga)Se2 thin films. *Applied Physics A: Materials Science and Processing*, **2006**, 82, 1-7	2.6	76
30	Electrical activity at grain boundaries of Cu(In,Ga)Se2 thin films. *Physical Review B*, **2005**, 71,	3.3	65
29	Lift-off process and rear-side characterization of CuGaSe2 chalcopyrite thin films and solar cells. *Journal of Applied Physics*, **2005**, 97, 094915	2.5	37
28	Potential distribution of Cu(In,Ga)(S,Se)2-solar cell cross-sections measured by Kelvin probe force microscopy. *Thin Solid Films*, **2005**, 480-481, 177-182	2.2	49
27	High-Efficient ZnO/PVD-CdS/Cu(In,Ga)Se2 Thin Film Solar Cells: Formation of the Buffer-Absorber Interface and Transport Properties. *Materials Research Society Symposia Proceedings*, **2005**, 865, 14251		7
26	Influence of uncompensated electrostatic force on height measurements in non-contact atomic force microscopy. *Nanotechnology*, **2004**, 15, S14-S18	3.4	34
25	Characterization of quantum wells by cross-sectional Kelvin probe force microscopy. *Applied Physics Letters*, **2004**, 85, 5245-5247	3.4	14
24	Electronic structure of secondary phases in Cu-rich CuGaSe2 solar cell devices. *Applied Physics Letters*, **2004**, 85, 3755-3757	3.4	26
23	Kelvin probe force microscopy of semiconductor surface defects. *Physical Review B*, **2004**, 70,	3.3	159
22	Kelvin probe force microscopy for the nano scale characterization of chalcopyrite solar cell materials and devices. *Thin Solid Films*, **2003**, 431-432, 257-261	2.2	109
21	Atomic force microscope topographical artifacts after the dielectric breakdown of ultrathin SiO2 films. *Surface Science*, **2003**, 532-535, 727-731	1.8	27
20	Resolution of Kelvin probe force microscopy in ultrahigh vacuum: comparison of experiment and simulation. *Applied Surface Science*, **2003**, 210, 32-36	6.7	63
19	Amplitude or frequency modulation-detection in Kelvin probe force microscopy. *Applied Surface Science*, **2003**, 210, 84-89	6.7	194
18	Kelvin probe force microscopy on III-V semiconductors: the effect of surface defects on the local work function. *Materials Science and Engineering B: Solid-State Materials for Advanced Technology*, **2003**, 102, 138-142	3.1	63
17	MOS-based nanocapacitor using C-AFM **2003**,		1
16	Correct height measurement in noncontact atomic force microscopy. *Physical Review Letters*, **2003**, 91, 266101	7.4	88
15	Contribution of the ZnSe/CuGaSe2 heterojunction in photovoltaic performances of chalcopyrite-based solar cells. *Thin Solid Films*, **2002**, 403-404, 344-348	2.2	5

14	Breakdown-induced negative charge in ultrathin SiO2 films measured by atomic force microscopy. *Applied Physics Letters*, **2002**, 81, 3615-3617	3.4	24
13	CuGaSe2 solar cell cross section studied by Kelvin probe force microscopy in ultrahigh vacuum. *Applied Physics Letters*, **2002**, 81, 2017-2019	3.4	103
12	High-resolution work function imaging of single grains of semiconductor surfaces. *Applied Physics Letters*, **2002**, 80, 2979-2981	3.4	135
11	Pressure-dependent oxygen diffusion in superconducting Tl2Ba2CuO6+□YBa2Cu3O7□and HgBa2CuO4+□Measurement and model calculation. *Physical Review B*, **2000**, 62, 9155-9162	3.3	11
10	Pressure dependence of Tc to 17 GPa with and without relaxation effects in superconducting YBa2Cu3Ox. *Physical Review B*, **2000**, 61, 741-749	3.3	110
9	Dependence of Tc on hydrostatic pressure in a 123 superconductor. *European Physical Journal B*, **2000**, 15, 15-20	1.2	
8	Relaxation effects in the transition temperature of superconducting HgBa2CuO4+□*Physical Review B*, **1999**, 60, 9827-9835	3.3	12
7	Evidence from high-pressure experiments that PrBa2Cu3Ox is a normal YBa2Cu3Ox-like oxide superconductor. *Physica C: Superconductivity and Its Applications*, **1999**, 328, 111-117	1.3	14
6	Oxygen-Ordering Effects in High-Tc Superconductors.. *Review of High Pressure Science and Technology/Koatsuryoku No Kagaku To Gijutsu*, **1998**, 7, 425-430	0	5
5	Pressure-dependent oxygen ordering in strongly underdoped YBa2Cu3O7□. *Physical Review B*, **1997**, 56, 14168-14175	3.3	28
4	Dependence of Tc on hydrostatic pressure in □-(ET)2SF5CH2CF2SO3 and □(ET)2Cu(NCS)2. *Solid State Communications*, **1997**, 104, 571-575	1.6	19
3	Interlayer coupling in Pb-substituted Bi2Sr2CaCu2O8+□single crystals. *Physica C: Superconductivity and Its Applications*, **1996**, 265, 194-200	1.3	21
2	Magnetic field dependence of the Josephson coupling energy along the c-axis in Bi2Sr2CaCu2O8+y. *Journal of Low Temperature Physics*, **1996**, 105, 1219-1224	1.3	
1	Coexistence of Superconductivity and Localization in Bi2Sr2(Caz,Pr1-z)Cu2O8+y. *Physical Review Letters*, **1996**, 77, 1837-1840	7.4	32