

Sascha Sadewasser

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121
papers

3,421
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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	Amplitude or frequency modulation-detection in Kelvin probe force microscopy. <i>Applied Surface Science</i> , 2003 , 210, 84-89	6.7	194
120	Kelvin probe force microscopy of semiconductor surface defects. <i>Physical Review B</i> , 2004 , 70,	3.3	159
119	High-resolution work function imaging of single grains of semiconductor surfaces. <i>Applied Physics Letters</i> , 2002 , 80, 2979-2981	3.4	135
118	New insights on atomic-resolution frequency-modulation Kelvin-probe force-microscopy imaging of semiconductors. <i>Physical Review Letters</i> , 2009 , 103, 266103	7.4	129
117	Pressure dependence of T _c to 17 GPa with and without relaxation effects in superconducting YBa ₂ Cu ₃ O _x . <i>Physical Review B</i> , 2000 , 61, 741-749	3.3	110
116	Kelvin probe force microscopy for the nano scale characterization of chalcopyrite solar cell materials and devices. <i>Thin Solid Films</i> , 2003 , 431-432, 257-261	2.2	109
115	CuGaSe ₂ solar cell cross section studied by Kelvin probe force microscopy in ultrahigh vacuum. <i>Applied Physics Letters</i> , 2002 , 81, 2017-2019	3.4	103
114	Incorporation of alkali metals in chalcogenide solar cells. <i>Solar Energy Materials and Solar Cells</i> , 2015 , 143, 9-20	6.4	96
113	Correct height measurement in noncontact atomic force microscopy. <i>Physical Review Letters</i> , 2003 , 91, 266101	7.4	88
112	Evidence for a neutral grain-boundary barrier in chalcopyrites. <i>Physical Review Letters</i> , 2006 , 97, 146601	7.4	84
111	Texture and electronic activity of grain boundaries in Cu(In,Ga)Se ₂ thin films. <i>Applied Physics A: Materials Science and Processing</i> , 2006 , 82, 1-7	2.6	76
110	Large neutral barrier at grain boundaries in chalcopyrite thin films. <i>Physical Review Letters</i> , 2010 , 104, 196602	7.4	69
109	Heavy Alkali Treatment of Cu(In,Ga)Se ₂ Solar Cells: Surface versus Bulk Effects. <i>Advanced Energy Materials</i> , 2020 , 10, 1903752	21.8	68
108	Electrical activity at grain boundaries of Cu(In,Ga)Se ₂ thin films. <i>Physical Review B</i> , 2005 , 71,	3.3	65
107	Resolution of Kelvin probe force microscopy in ultrahigh vacuum: comparison of experiment and simulation. <i>Applied Surface Science</i> , 2003 , 210, 32-36	6.7	63
106	Kelvin probe force microscopy on III ^V semiconductors: the effect of surface defects on the local work function. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 2003 , 102, 138-142	3.1	63
105	Effect of the KF post-deposition treatment on grain boundary properties in Cu(In, Ga)Se thin films. <i>Scientific Reports</i> , 2017 , 7, 41361	4.9	60

104	Direct evidence for a reduced density of deep level defects at grain boundaries of Cu(In,Ga)Se ₂ thin films. <i>Physical Review Letters</i> , 2010 , 105, 116802	7.4	59
103	. <i>IEEE Journal of Photovoltaics</i> , 2014 , 4, 1644-1649	3.7	57
102	Direct evidence for grain boundary passivation in Cu(In,Ga)Se solar cells through alkali-fluoride post-deposition treatments. <i>Nature Communications</i> , 2019 , 10, 3980	17.4	52
101	Potential distribution of Cu(In,Ga)(S,Se) ₂ -solar cell cross-sections measured by Kelvin probe force microscopy. <i>Thin Solid Films</i> , 2005 , 480-481, 177-182	2.2	49
100	Transient surface photovoltage of p-type Cu ₃ BiS ₃ . <i>Applied Physics Letters</i> , 2010 , 96, 082113	3.4	47
99	CdS and Zn _{1-x} Sn _x O _y buffer layers for CIGS solar cells. <i>Solar Energy Materials and Solar Cells</i> , 2017 , 159, 272-281	6.4	44
98	The influence of surface topography on Kelvin probe force microscopy. <i>Nanotechnology</i> , 2009 , 20, 5055034	3.4	44
97	. <i>IEEE Journal of Photovoltaics</i> , 2016 , 6, 332-336	3.7	42
96	Nanometer-scale electronic and microstructural properties of grain boundaries in Cu(In,Ga)Se ₂ . <i>Thin Solid Films</i> , 2011 , 519, 7341-7346	2.2	42
95	Evaluation of Kelvin probe force microscopy for imaging grain boundaries in chalcopyrite thin films. <i>Applied Physics Letters</i> , 2006 , 89, 113120	3.4	38
94	Lift-off process and rear-side characterization of CuGaSe ₂ chalcopyrite thin films and solar cells. <i>Journal of Applied Physics</i> , 2005 , 97, 094915	2.5	37
93	Special cantilever geometry for the access of higher oscillation modes in atomic force microscopy. <i>Applied Physics Letters</i> , 2006 , 89, 033106	3.4	37
92	Passivation of Interfaces in Thin Film Solar Cells: Understanding the Effects of a Nanostructured Rear Point Contact Layer. <i>Advanced Materials Interfaces</i> , 2018 , 5, 1701101	4.6	36
91	Toward quantitative Kelvin probe force microscopy of nanoscale potential distributions. <i>Physical Review B</i> , 2012 , 85,	3.3	34
90	Influence of uncompensated electrostatic force on height measurements in non-contact atomic force microscopy. <i>Nanotechnology</i> , 2004 , 15, S14-S18	3.4	34
89	Properties of electronic potential barriers at grain boundaries in Cu(In,Ga)Se ₂ thin films. <i>Solar Energy Materials and Solar Cells</i> , 2014 , 130, 124-131	6.4	33
88	Electrostatic potentials at Cu(In,Ga)Se ₂ grain boundaries: experiment and simulations. <i>Physical Review Letters</i> , 2012 , 109, 095506	7.4	33
87	Formation of the physical vapor deposited CdS/Cu(In,Ga)Se ₂ interface in highly efficient thin film solar cells. <i>Applied Physics Letters</i> , 2006 , 88, 143510	3.4	33

86	Reliable wet-chemical cleaning of natively oxidized high-efficiency Cu(In,Ga)Se ₂ thin-film solar cell absorbers. <i>Journal of Applied Physics</i> , 2014 , 116, 233502	2.5	32
85	Symmetry-dependence of electronic grain boundary properties in polycrystalline CuInSe ₂ thin films. <i>Applied Physics Letters</i> , 2011 , 99, 172102	3.4	32
84	Coexistence of Superconductivity and Localization in Bi ₂ Sr ₂ (Ca _z ,Pr _{1-z})Cu ₂ O _{8+y} . <i>Physical Review Letters</i> , 1996 , 77, 1837-1840	7.4	32
83	Surface potential of chalcopyrite films measured by KPFM. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2006 , 203, 2571-2580	1.6	30
82	Surface photovoltage spectroscopy in a Kelvin probe force microscope under ultrahigh vacuum. <i>Review of Scientific Instruments</i> , 2009 , 80, 013907	1.7	29
81	Pressure-dependent oxygen ordering in strongly underdoped YBa ₂ Cu ₃ O _{7-δ} . <i>Physical Review B</i> , 1997 , 56, 14168-14175	3.3	28
80	Scanning probe microscopy of solar cells: From inorganic thin films to organic photovoltaics. <i>MRS Bulletin</i> , 2012 , 37, 642-650	3.2	27
79	Surface photovoltage analysis of thin CdS layers on polycrystalline chalcopyrite absorber layers by Kelvin probe force microscopy. <i>Nanotechnology</i> , 2008 , 19, 145705	3.4	27
78	Atomic force microscope topographical artifacts after the dielectric breakdown of ultrathin SiO ₂ films. <i>Surface Science</i> , 2003 , 532-535, 727-731	1.8	27
77	Electronic structure of secondary phases in Cu-rich CuGaSe ₂ solar cell devices. <i>Applied Physics Letters</i> , 2004 , 85, 3755-3757	3.4	26
76	Materials efficient deposition and heat management of CuInSe ₂ micro-concentrator solar cells. <i>Solar Energy Materials and Solar Cells</i> , 2017 , 159, 496-502	6.4	24
75	Comparative study of Cu(In,Ga)Se ₂ /CdS and Cu(In,Ga)Se ₂ /In ₂ S ₃ systems by surface photovoltage techniques. <i>Thin Solid Films</i> , 2013 , 535, 357-361	2.2	24
74	Breakdown-induced negative charge in ultrathin SiO ₂ films measured by atomic force microscopy. <i>Applied Physics Letters</i> , 2002 , 81, 3615-3617	3.4	24
73	Three-dimensional structure of the buffer/absorber interface in CdS/CuGaSe ₂ based thin film solar cells. <i>Applied Physics Letters</i> , 2009 , 95, 173502	3.4	23
72	Combined analysis of spatially resolved electronic structure and composition on a cross-section of a thin film Cu(In _{1-x} Ga _x)Se ₂ solar cell. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2009 , 206, 1017-1020	1.6	23
71	Locally resolved surface photo voltage spectroscopy on Zn-doped CuInS ₂ polycrystalline thin films. <i>Thin Solid Films</i> , 2009 , 517, 2349-2352	2.2	22
70	Electronic properties of grain boundaries in Cu(In,Ga)Se ₂ thin films with various Ga-contents. <i>Solar Energy Materials and Solar Cells</i> , 2012 , 103, 86-92	6.4	21
69	Modified atomic force microscopy cantilever design to facilitate access of higher modes of oscillation. <i>Review of Scientific Instruments</i> , 2006 , 77, 073703	1.7	21

68	Interlayer coupling in Pb-substituted Bi ₂ Sr ₂ CaCu ₂ O ₈ + δ single crystals. <i>Physica C: Superconductivity and Its Applications</i> , 1996 , 265, 194-200	1.3	21
67	. <i>IEEE Journal of Photovoltaics</i> , 2017 , 7, 670-675	3.7	20
66	Cd and Cu Interdiffusion in Cu(In, Ga)Se ₂ /CdS Hetero-Interfaces. <i>IEEE Journal of Photovoltaics</i> , 2017 , 7, 858-863	3.7	20
65	Evidence for Chemical and Electronic Nonuniformities in the Formation of the Interface of RbF-Treated Cu(In,Ga)Se with CdS. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 44173-44180	9.5	20
64	Fast Growth of High Work Function and High-Quality ZnO Nanorods from an Aqueous Solution. <i>Journal of Physical Chemistry C</i> , 2011 , 115, 5239-5243	3.8	20
63	Zinc diffusion in polycrystalline Cu(In,Ga)Se ₂ and single-crystal CuInSe ₂ layers. <i>Applied Physics Letters</i> , 2012 , 101, 074105	3.4	20
62	Comment on "electrostatic force microscopy on oriented graphite surfaces: coexistence of insulating and conducting behaviors". <i>Physical Review Letters</i> , 2007 , 98, 269701; discussion 269702	7.4	20
61	Dependence of T _c on hydrostatic pressure in δ -(ET) ₂ SF ₅ CH ₂ CF ₂ SO ₃ and δ -(ET) ₂ Cu(NCS) ₂ . <i>Solid State Communications</i> , 1997 , 104, 571-575	1.6	19
60	Chemical instability at chalcogenide surfaces impacts chalcopyrite devices well beyond the surface. <i>Nature Communications</i> , 2020 , 11, 3634	17.4	18
59	Nanoscale investigations of the electronic surface properties of Cu(In,Ga)Se ₂ thin films by scanning tunneling spectroscopy. <i>Solar Energy Materials and Solar Cells</i> , 2011 , 95, 1537-1543	6.4	16
58	Microscopic characterization of individual grain boundaries in Cu-III δ II ₂ chalcopyrites. <i>Thin Solid Films</i> , 2007 , 515, 6136-6141	2.2	15
57	High Efficiency Solar Cell Based on Full PVD Processed Cu(In,Ga)Se ₂ /CdIn ₂ S ₄ Heterojunction. <i>Solar Rrl</i> , 2017 , 1, 1700140	7.1	14
56	A one-dimensional Fickian model to predict the Ga depth profiles in three-stage Cu(In,Ga)Se ₂ . <i>Journal of Applied Physics</i> , 2014 , 115, 204913	2.5	14
55	Junction formation of Cu(3)BiS(3) investigated by Kelvin probe force microscopy and surface photovoltage measurements. <i>Beilstein Journal of Nanotechnology</i> , 2012 , 3, 277-84	3	14
54	Optoelectronic evaluation of the nanostructuring approach to chalcopyrite-based intermediate band materials. <i>Solar Energy Materials and Solar Cells</i> , 2010 , 94, 1912-1918	6.4	14
53	Characterization of quantum wells by cross-sectional Kelvin probe force microscopy. <i>Applied Physics Letters</i> , 2004 , 85, 5245-5247	3.4	14
52	Evidence from high-pressure experiments that PrBa ₂ Cu ₃ O _x is a normal YBa ₂ Cu ₃ O _x -like oxide superconductor. <i>Physica C: Superconductivity and Its Applications</i> , 1999 , 328, 111-117	1.3	14
51	Electroluminescence of copper-nitride nanocrystals. <i>Physical Review B</i> , 2014 , 90,	3.3	13

50	Tetrahedral chalcopyrite quantum dots for solar-cell applications. <i>Applied Physics Letters</i> , 2011 , 99, 11190-11194	9.7	13
49	Relaxation effects in the transition temperature of superconducting HgBa ₂ CuO ₄ + δ . <i>Physical Review B</i> , 1999 , 60, 9827-9835	3.3	12
48	Wafer-Scale Fabrication of 2D In ₂ Se ₃ Photodetectors. <i>Advanced Optical Materials</i> , 2021 , 9, 2001034	8.1	12
47	Pressure-dependent oxygen diffusion in superconducting Tl ₂ Ba ₂ CuO ₆ + δ /YBa ₂ Cu ₃ O ₇ - δ and HgBa ₂ CuO ₄ + δ . Measurement and model calculation. <i>Physical Review B</i> , 2000 , 62, 9155-9162	3.3	11
46	Time-Resolved Electrostatic and Kelvin Probe Force Microscopy. <i>Springer Series in Surface Sciences</i> , 2018 , 119-143	0.4	9
45	Electronic and morphological properties of the electrochemically prepared step bunched silicon (111) surface. <i>Physica Status Solidi (B): Basic Research</i> , 2011 , 248, 361-369	1.3	9
44	Impact of KF Post-Deposition Treatment on Aging of the Cu(In,Ga)Se ₂ Surface and Its Interface with CdS. <i>ACS Applied Energy Materials</i> , 2018 , 1, 2681-2688	6.1	9
43	Epitaxial CuInSe ₂ thin films grown by molecular beam epitaxy and migration enhanced epitaxy. <i>Journal of Crystal Growth</i> , 2017 , 475, 300-306	1.6	8
42	A β grain boundary in an epitaxial chalcopyrite film. <i>Thin Solid Films</i> , 2007 , 515, 6168-6171	2.2	8
41	Chalcopyrite Semiconductors for Quantum Well Solar Cells. <i>Advanced Energy Materials</i> , 2011 , 1, 1109-1115	5.8	7
40	Local surface photovoltage spectroscopy of Cu-phthalocyanine clusters on different substrates. <i>Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics</i> , 2010 , 28, C4D29-C4D33	1.3	7
39	High-Efficient ZnO/PVD-CdS/Cu(In,Ga)Se ₂ Thin Film Solar Cells: Formation of the Buffer-Absorber Interface and Transport Properties. <i>Materials Research Society Symposia Proceedings</i> , 2005 , 865, 14251		7
38	Thin-film micro-concentrator solar cells. <i>JPhys Energy</i> , 2020 , 2, 012001	4.9	7
37	Over 6% Efficient Cu(In,Ga)Se ₂ Solar Cell Screen-Printed from Oxides on Fluorine-Doped Tin Oxide. <i>ACS Applied Energy Materials</i> , 2020 , 3, 3120-3126	6.1	6
36	Synthesis and formation mechanism of CuInSe ₂ nanowires by one-step self-catalysed evaporation growth. <i>CrystEngComm</i> , 2016 , 18, 7147-7153	3.3	6
35	Integrated tunneling sensor for nanoelectromechanical systems. <i>Applied Physics Letters</i> , 2006 , 89, 17310-17314	3.4	6
34	Grain Boundaries in Cu(In, Ga)Se ₂ : A Review of Composition-Electronic Property Relationships by Atom Probe Tomography and Correlative Microscopy. <i>Advanced Functional Materials</i> , 2021 , 31, 2103119	15.6	6
33	Artifacts in time-resolved Kelvin probe force microscopy. <i>Beilstein Journal of Nanotechnology</i> , 2018 , 9, 1272-1281	3	6

32	Template-directed self-organization of colloidal PbTe nanocrystals into pillars, conformal coatings, and self-supported membranes. <i>Nanoscale Advances</i> , 2019 , 1, 3049-3055	5.1	5
31	Area-selective electrodeposition of micro islands for CuInSe ₂ -based photovoltaics. <i>Results in Physics</i> , 2019 , 12, 2136-2140	3.7	5
30	Contribution of the ZnSe/CuGaSe ₂ heterojunction in photovoltaic performances of chalcopyrite-based solar cells. <i>Thin Solid Films</i> , 2002 , 403-404, 344-348	2.2	5
29	Oxygen-Ordering Effects in High-T _c Superconductors.. <i>Review of High Pressure Science and Technology/Koatsuryoku No Kagaku To Gijutsu</i> , 1998 , 7, 425-430	0	5
28	Efficient ReSe Photodetectors with CVD Single-Crystal Graphene Contacts. <i>Nanomaterials</i> , 2021 , 11,	5.4	5
27	Geometry and materials considerations for thin film micro-concentrator solar cells. <i>Solar Energy</i> , 2017 , 158, 186-191	6.8	4
26	Giant Voc Boost of Low-Temperature Annealed Cu(In,Ga)Se ₂ with Sputtered Zn(O,S) Buffers. <i>Physica Status Solidi - Rapid Research Letters</i> , 2019 , 13, 1900145	2.5	4
25	System for manufacturing complete Cu(In,Ga)Se ₂ solar cells in situ under vacuum. <i>Solar Energy</i> , 2020 , 198, 490-498	6.8	4
24	Microscopic investigation of the CdS buffer layer growth on Cu(In,Ga)Se ₂ absorbers. <i>Journal of Vacuum Science & Technology B</i> , 2008 , 26, 901		4
23	A Neutral Barrier at CGS Grain Boundaries - Compositional and Structural Dependencies. <i>Materials Research Society Symposia Proceedings</i> , 2007 , 1012, 1		4
22	Micro-sized thin-film solar cells via area-selective electrochemical deposition for concentrator photovoltaics application. <i>Scientific Reports</i> , 2020 , 10, 14763	4.9	4
21	Optical and structural investigation of Cu ₂ ZnSnS ₄ based solar cells. <i>Physica Status Solidi (B): Basic Research</i> , 2016 , 253, 2129-2135	1.3	4
20	CuInSe quantum dots grown by molecular beam epitaxy on amorphous SiO surfaces. <i>Beilstein Journal of Nanotechnology</i> , 2019 , 10, 1103-1111	3	3
19	Experimental Technique and Working Modes. <i>Springer Series in Surface Sciences</i> , 2018 , 3-22	0.4	2
18	2015 ,		2
17	Electrostatic Force Microscopy And Kelvin Probe Force Microscopy 2012 , 1		2
16	Scanning Probe Microscopy on Inorganic Thin Films for Solar Cells 2011 , 275-298		2
15	Growth and Characterization of Chalcopyrite Nanocrystals: Beyond Conventional Thin Films. <i>Materials Research Society Symposia Proceedings</i> , 2007 , 1012, 1		2

14	Rapid Shutdown with Panel Level Electronics-A suitable safety measure? 2017 ,		1
13	MOS-based nanocapacitor using C-AFM 2003 ,		1
12	Chalcopyrite Quantum Wells and Dots in Solar-Cell Applications. <i>Springer Series in Materials Science</i> , 2014 , 115-130	0.9	1
11	Role of sublimation kinetics of ammonia borane in chemical vapor deposition of uniform, large-area hexagonal boron nitride. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2021 , 39, 042202	2.9	1
10	Growth of CuInSe ₂ nanowires without external catalyst by molecular beam epitaxy 2016 ,		1
9	Merging Solution Processing and Printing for Sustainable Fabrication of Cu(In,Ga)Se ₂ Photovoltaics. <i>Chemical Engineering Journal</i> , 2022 , 136188	14.7	1
8	Atomic-Scale Interface Modification Improves the Performance of Cu(InGa)Se/Zn(O,S) Heterojunction Solar Cells. <i>ACS Applied Materials & Interfaces</i> , 2021 , 13, 44207-44213	9.5	0
7	Effect of Cu-In-Ga Target Composition on Hybrid-Sputtered Cu(In,Ga)Se ₂ Solar Cells. <i>IEEE Journal of Photovoltaics</i> , 2021 , 11, 1206-1212	3.7	0
6	Scanning Probe Microscopy on Inorganic Thin Films for Solar Cells 2016 , 343-369		
5	Dependence of T _c on hydrostatic pressure in a 123 superconductor. <i>European Physical Journal B</i> , 2000 , 15, 15-20	1.2	
4	Magnetic field dependence of the Josephson coupling energy along the c-axis in Bi ₂ Sr ₂ CaCu ₂ O _{8+y} . <i>Journal of Low Temperature Physics</i> , 1996 , 105, 1219-1224	1.3	
3	AFM oxidation of Ti for nanoscale IC applications 2018 , 665-668		
2	Voids in Kesterites and the Influence of Lamellae Preparation by Focused Ion Beam for Transmission Electron Microscopy Analyses. <i>IEEE Journal of Photovoltaics</i> , 2019 , 9, 565-570	3.7	
1	Van der Waals Epitaxy of Ultrathin In ₂ Se ₃ on Insulators Used in Standard Silicon Microelectronics Technology. <i>Crystal Growth and Design</i> , 2021 , 21, 5268-5274	3.5	