Regan G Wilks

List of Publications by Year
in descending order

119 papers	2,842 citations	218677 26 h-index	197818 49 g-index
121 all docs	121 docs citations	121 times ranked	4501 citing authors

#	Article	IF	Citations
1	Improved performance of Geâ€alloyed CZTGeSSe thinâ€film solar cells through control of elemental losses. Progress in Photovoltaics: Research and Applications, 2015, 23, 376-384.	8.1	186
2	Cliff-like conduction band offset and KCN-induced recombination barrier enhancement at the CdS/Cu2ZnSnS4 thin-film solar cell heterojunction. Applied Physics Letters, 2011, 99, .	3.3	181
3	Observation and Mediation of the Presence of Metallic Lead in Organicâ€“Inorganic Perovskite Films. ACS Applied Materials & Interfaces, 2015, 7, 13440-13444.	8.0	167
4	Potassium Postdeposition Treatment-Induced Band Gap Widening at Cu(In,Ga)Se₂ Surfaces â€“ Reason for Performance Leap?. ACS Applied Materials & Interfaces, 2015, 7, 27414-27420.	8.0	147
5	Oxygen x-ray emission and absorption spectra as a probe of the electronic structure of strongly correlated oxides. Physical Review B, 2008, 77, .	3.2	139
6	The Doping Mechanism of Halide Perovskite Unveiled by Alkaline Earth Metals. Journal of the American Chemical Society, 2020, 142, 2364-2374.	13.7	132
7	Heavy Alkali Treatment of Cu(In,Ga)Se₂Solar Cells: Surface versus Bulk Effects. Advanced Energy Materials, 2020, 10, 1903752.	19.5	107
8	Direct observation of an inhomogeneous chlorine distribution in CH₃NH₃PbI_{3â^'x}Cl_x layers: surface depletion and interface enrichment. Energy and Environmental Science, 2015, 8, 1609-1615.	30.8	97
9	Formation of a Kâ€"Inâ€"Se Surface Species by NaF/KF Postdeposition Treatment of Cu(In,Ga)Se₂ Thin-Film Solar Cell Absorbers. ACS Applied Materials & Interfaces, 2017, 9, 3581-3589.	8.0	94
10	Band gaps and electronic structure of alkaline-earth and post-transition-metal oxides. Physical Review B, 2010, 81, .	3.2	78
11	Fluoride Chemistry in Tin Halide Perovskites. Angewandte Chemie - International Edition, 2021, 60, 21583-21591.	13.8	68
12	Nuclear dynamics and spectator effects in resonant inelastic soft x-ray scattering of gas-phase water molecules. Journal of Chemical Physics, 2012, 136, 144311.	3.0	66
13	Electronic structure of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mtext>Bi</mml:mtext><mml:mi>M</mml:mi><mml:msub><mml:mtext>O</mml:mtext><mml:m and related oxides. Physical Review B, 2010, 81, .	3.2	64
14	Electronic structure of boron nitride single crystals and films. Physical Review B, 2005, 72, .	3.2	52
15	Unveiling the Hybrid n-Si/PEDOT:PSS Interface. ACS Applied Materials & Interfaces, 2016, 8, 8841-8848.	8.0	47
16	X-ray spectra and electronic structures of the iron arsenide superconductors<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>R</mml:mi><mml:msub><mml:mrow><mml:mtext>FeAsO</mml:mtext></mml:mrow><mml:mr xmlns:mml="http://www.w3.org/1998/Math/MathML"		

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19	Substituent Effects in the Iron 2p and Carbon 1s Edge Near-Edge X-ray Absorption Fine Structure (NEXAFS) Spectroscopy of Ferrocene Compounds. Journal of Physical Chemistry A, 2008, 112, 624-634.	2.5	33
20	Perovskite solar cells: Danger from within. Nature Energy, 2017, 2, .	39.5	33
21	Characterization of Sulfur Bonding in CdS:O Buffer Layers for CdTe-based Thin-Film Solar Cells. ACS Applied Materials & Interfaces, 2015, 7, 16382-16386.	8.0	32
22	Sn Substitution by Ge: Strategies to Overcome the Open-Circuit Voltage Deficit of Kesterite Solar Cells. ACS Applied Energy Materials, 2020, 3, 5830-5839.	5.1	32
23	Electronic structure of Cu<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>2</mml:mn></mml:msub></mml:math>ZnSnS<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>4</mml:mn></mml:msub></mml:math>probed by soft x-ray emission and absorption spectroscopy. Physical Review B, 2011, 84, .	3.2	31
24	Znâ€"Seâ€"Cdâ€"S Interlayer Formation at the CdS/Cu₂ZnSnSe₄ Thin-Film Solar Cell Interface. ACS Energy Letters, 2017, 2, 1632-1640.	17.4	31
25	Hard x-ray photoelectron spectroscopy study of the buried Si/ZnO thin-film solar cell interface: Direct evidence for the formation of Siâ€"O at the expense of Zn-O bonds. Applied Physics Letters, 2011, 99, .	3.3	28
26	Na incorporation into Cu(In,Ga)Se2 thin-film solar cell absorbers deposited on polyimide: Impact on the chemical and electronic surface structure. Journal of Applied Physics, 2012, 111, .	2.5	28
27	Preparation and in-system study of SnCl₂ precursor layers: towards vacuum-based synthesis of Pb-free perovskites. RSC Advances, 2018, 8, 67-73.	3.6	26
28	Combined X-ray Absorption Spectroscopy and Density Functional Theory Examination of Ferrocene-Labeled Peptides. Journal of Physical Chemistry B, 2006, 110, 5955-5965.	2.6	25
29	Evidence for Chemical and Electronic Nonuniformities in the Formation of the Interface of RbF-Treated Cu(In,Ga)Se₂ with CdS. ACS Applied Materials & Interfaces, 2017, 9, 44173-44180.	8.0	25
30	Comparative Theoretical and Experimental Study of the Radiation-Induced Decomposition of Glycine. Journal of Physical Chemistry A, 2009, 113, 5360-5366.	2.5	24
31	â€œBuilding Block Pictureâ€• of the Electronic Structure of Aqueous Cysteine Derived from Resonant Inelastic Soft X-ray Scattering. Journal of Physical Chemistry B, 2014, 118, 13142-13150.	2.6	24
32	X-ray irradiation induced effects on the chemical and electronic properties of MoO 3 thin films. Journal of Electron Spectroscopy and Related Phenomena, 2016, 212, 50-55.	1.7	23
33	Impact of Annealing-Induced Intermixing on the Electronic Level Alignment at the In₂S₃/Cu(In,Ga)Se₂ Thin-Film Solar Cell Interface. ACS Applied Materials & Interfaces, 2016, 8, 2120-2124.	8.0	23
34	The isotype ZnO/SiC heterojunction prepared by molecular beam epitaxyâ€‰â€"â€‰A chemical inert interface with significant band discontinuities. Scientific Reports, 2016, 6, 23106.	3.3	22
35	Exciton-Dominated Core-Level Absorption Spectra of Hybrid Organicâ€"Inorganic Lead Halide Perovskites. Journal of Physical Chemistry Letters, 2018, 9, 1852-1858.	4.6	22
36	Improving performance by Na doping of a buffer layerâ€"chemical and electronic structure of the In_xS_y:Na/CuIn(S,Se)₂ thinâ€film solar cell interface. Progress in Photovoltaics: Research and Applications, 2018, 26, 359-366.	8.1	20

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37	Tunability of MoO₃ Thin-Film Properties Due to Annealing in Situ Monitored by Hard X-ray Photoemission. ACS Omega, 2019, 4, 10985-10990.	3.5	20
38	Site-specific electronic structure of imidazole and imidazolium in aqueous solutions. Physical Chemistry Chemical Physics, 2018, 20, 8302-8310.	2.8	19
39	Wide band gap kesterite absorbers for thin film solar cells: potential and challenges for their deployment in tandem devices. Sustainable Energy and Fuels, 2019, 3, 2246-2259.	4.9	19
40	Soft x-ray emission spectroscopy studies of the electronic structure of silicon supersaturated with sulfur. Applied Physics Letters, 2011, 99, 142102.	3.3	18
41	Cu_{2â€x}S Surface Phases and Their Impact on the Electronic Structure of CuInS₂ Thin Films â€“ A Hidden Parameter in Solar Cell Optimization. Advanced Energy Materials, 2013, 3, 777-781.	19.5	18
42	NEXAFS studies of copper phthaloyanine on Ge(001)â€2 Ã— 1 and Ge(111)â€c(2 Ã— 8) surfaces. Physica Status Solidi (B): Basic Research, 2009, 246, 1546-1551.	1.5	17
43	Annealing-Induced Effects on the Chemical Structure of the In₂S₃/CuIn(S,Se)₂ Thin-Film Solar Cell Interface. Journal of Physical Chemistry C, 2015, 119, 10412-10416.	3.1	17
44	Active and Stable Nickelâ€Based Electrocatalysts Based on the ZnO:Ni System for Water Oxidation in Alkaline Media. ChemCatChem, 2017, 9, 672-676.	3.7	17
45	CdS/Low-Band-Gap Kesterite Thin-Film Solar Cell Absorber Heterojunction: Energy Level Alignment and Dominant Recombination Process. ACS Applied Energy Materials, 2018, 1, 475-482.	5.1	17
46	Isotope Effects in the Resonant Inelastic Soft X-ray Scattering Maps of Gas-Phase Methanol. Journal of Physical Chemistry A, 2016, 120, 2260-2267.	2.5	16
47	Charge transfer and band gap of ferrocene intercalated into TiSe2. Chemical Physics Letters, 2010, 497, 187-190.	2.6	14
48	Cu₂ZnSnS₄ thin-film solar cell absorbers illuminated by soft x-rays. Journal of Materials Research, 2012, 27, 1097-1104.	2.6	14
49	Doped microcrystalline silicon oxide alloys for siliconâ€based photovoltaics: Optoelectronic properties, chemical composition, and structure studied by advanced characterization techniques. Physica Status Solidi (A) Applications and Materials Science, 2016, 213, 1814-1820.	1.8	14
50	Energy Level Alignment and Cation Charge States at the LaFeO 3 /LaMnO 3 (001) Heterointerface. Advanced Materials Interfaces, 2017, 4, 1700183.	3.7	14
51	X-ray Emission Spectroscopy of Proteinogenic Amino Acids at All Relevant Absorption Edges. Journal of Physical Chemistry B, 2017, 121, 6549-6556.	2.6	14
52	Chemical Interaction at the MoO₃/CH₃NH₃PbI_{3â€“<i>x</i>}Cl<i>_x</i> Interface. ACS Applied Materials & Interfaces, 2021, 13, 17085-17092.	8.0	13
53	The silicon/zinc oxide interface in amorphous silicon-based thin-film solar cells: Understanding an empirically optimized contact. Applied Physics Letters, 2013, 103, .	3.3	12
54	Setup for in situ investigation of gases and gas/solid interfaces by soft x-ray emission and absorption spectroscopy. Review of Scientific Instruments, 2014, 85, 015119.	1.3	12

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55	NaF/RbF-Treated Cu(In,Ga)Se₂ Thin-Film Solar Cell Absorbers: Distinct Surface Modifications Caused by Two Different Types of Rubidium Chemistry. ACS Applied Materials & Interfaces, 2020, 12, 34941-34948.	8.0	12
56	Dynamic Effects and Hydrogen Bonding in Mixed-Halide Perovskite Solar Cell Absorbers. Journal of Physical Chemistry Letters, 2021, 12, 3885-3890.	4.6	12
57	Impact of solid-phase crystallization of amorphous silicon on the chemical structure of the buried Si/ZnO thin film solar cell interface. Applied Physics Letters, 2010, 97, 072105.	3.3	11
58	Wild band edges: The role of bandgap grading and band-edge fluctuations in high-efficiency chalcogenide devices. , 2016, , .		11
59	Spatially Resolved Insight into the Chemical and Electronic Structure of Solutionâ€Processed Perovskitesâ€"Why to (Not) Worry about Pinholes. Advanced Materials Interfaces, 2018, 5, 1701420.	3.7	11
60	Advanced characterization and in-situ growth monitoring of Cu(In,Ga)Se2 thin films and solar cells. Solar Energy, 2018, 170, 102-112.	6.1	11
61	Experimental and Theoretical Investigation of the Electronic Structure of 5-Fluorouracil Compounds. Journal of Physical Chemistry B, 2006, 110, 18180-18190.	2.6	10
62	Non-equivalent carbon atoms in the resonant inelastic soft X-ray scattering map of cysteine. Journal of Chemical Physics, 2013, 138, 034306.	3.0	10
63	Local electronic structure of the peptide bond probed by resonant inelastic soft X-ray scattering. Physical Chemistry Chemical Physics, 2019, 21, 13207-13214.	2.8	10
64	Unipolar-to-Ambipolar Conversion of Organic Thin-Film Transistors by Organosilane Self-Assembled Monolayer. Journal of Physical Chemistry B, 2008, 112, 16266-16270.	2.6	9
65	The complex interface chemistry of thin-film silicon/zinc oxide solar cell structures. Physical Chemistry Chemical Physics, 2014, 16, 26266-26272.	2.8	9
66	NaF/KF post-deposition treatments and their influence on the structure of Cu(In,) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 302 Td (Ga)Se&l		9
67	Alkali Postdeposition Treatment-Induced Changes of the Chemical and Electronic Structure of Cu(In,Ga)Se₂ Thin-Film Solar Cell Absorbers: A First-Principle Perspective. ACS Applied Materials & Interfaces, 2019, 11, 3024-3033.	8.0	9
68	Oxidation induced restructuring of Rhâ€“Ga SCALMS model catalyst systems. Journal of Chemical Physics, 2020, 153, 104702.	3.0	9
69	Monitoring the Sodiation Mechanism of Anatase TiO₂ Nanoparticle-Based Electrodes for Sodium-Ion Batteries by <i>Operando</i> XANES Measurements. ACS Applied Energy Materials, 2021, 4, 164-175.	5.1	9
70	Characterization of oxide layers formed on electrochemically treated Ti by using soft X-ray absorption measurements. Journal of Electron Spectroscopy and Related Phenomena, 2009, 169, 46-50.	1.7	8
71	In-system photoelectron spectroscopy study of tin oxide layers produced from tetrakis(dimethylamino)tin by plasma enhanced atomic layer deposition. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2018, 36, .	2.1	8
72	Hard Xâ€ray photoelectron spectroscopy study of core level shifts at buried GaP/Si(001) interfaces. Surface and Interface Analysis, 2020, 52, 933-938.	1.8	8

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73	Utilizing the unique charge extraction properties of antimony tin oxide nanoparticles for efficient and stable organic photovoltaics. Nano Energy, 2021, 89, 106373.	16.0	8
74	Excited states in yttrium orthovanadate YVO4 measured by soft X-ray absorption spectroscopy. Journal of Materials Science, 2013, 48, 6437-6444.	3.7	7
75	Soft X-rays shedding light on thin-film solar cell surfaces and interfaces. Journal of Electron Spectroscopy and Related Phenomena, 2013, 190, 47-53.	1.7	7
76	Pronounced Surface Band Bending of Thin-Film Silicon Revealed by Modeling Core Levels Probed with Hard X-rays. ACS Applied Materials & Interfaces, 2016, 8, 17685-17693.	8.0	7
77	In-Situ Probing of H2O Effects on a Ru-Complex Adsorbed on TiO2 Using Ambient Pressure Photoelectron Spectroscopy. Topics in Catalysis, 2016, 59, 583-590.	2.8	7
78	Resonantly excited cascade x-ray emission from La. Physical Review B, 2005, 72, .	3.2	6
79	Chemical interaction at the buried silicon/zinc oxide thin-film solar cell interface as revealed by hard X-ray photoelectron spectroscopy. Journal of Electron Spectroscopy and Related Phenomena, 2013, 190, 309-313.	1.7	6
80	Nearâ€Surface [Ga]/([In]+[Ga]) Composition in Cu(In,Ga)Se 2 Thinâ€Film Solar Cell Absorbers: An Overlooked Material Feature. Physica Status Solidi (A) Applications and Materials Science, 2019, 216, 1800856.	1.8	6
81	Origin of Interface Limitation in Zn(O,S)/CuInS₂-Based Solar Cells. ACS Applied Materials & Interfaces, 2022, 14, 9676-9684.	8.0	6
82	Ion irradiation induced reduction of Fe3+to Fe2+and Fe0in triethoxysilane films. Journal of Physics Condensed Matter, 2005, 17, 7023-7028.	1.8	5
83	Energy band structure and X-ray spectra of phenakite Be2SiO4. Physics of the Solid State, 2008, 50, 615-620.	0.6	5
84	Correlation effects inNiâ€‰3dstates of LaNiPO. Physical Review B, 2010, 81, .	3.2	5
85	Microstructure of vanadium-based contacts on n-type GaN. Journal Physics D: Applied Physics, 2012, 45, 105401.	2.8	5
86	The chemical structure of the ZnO/SiC heterointerface as revealed by electron spectroscopies. Journal Physics D: Applied Physics, 2015, 48, 305304.	2.8	5
87	Polycapillary-boosted instrument performance in the extreme ultraviolet regime for inverse photoemission spectroscopy. Optics Express, 2017, 25, 31840.	3.4	5
88	Selenization of CuInS₂ by rapid thermal processing â€“ an alternative approach to induce a band gap grading in chalcopyrite thin-film solar cell absorbers?. Journal of Materials Chemistry A, 2019, 7, 2087-2094.	10.3	5
89	Interface Formation between CdS and Alkali Postdeposition-Treated Cu(In,Ga)Se₂ Thin-Film Solar Cell Absorbersâ€"Key To Understanding the Efficiency Gain. ACS Applied Materials & Interfaces, 2020, 12, 6688-6698.	8.0	5
90	Fluoridchemie in Zinnâ€Halogenidâ€Perowskiten. Angewandte Chemie, 2021, 133, 21753-21762.	2.0	5

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91	Band bending at heterovalent interfaces: Hard X-ray photoelectron spectroscopy of GaP/Si(0Â0Â1) heterostructures. Applied Surface Science, 2021, 565, 150514.	6.1	5
92	Prospect of making XPS a high-throughput analytical method illustrated for a Cu_{<i>x</i>}Ni_{1â^’<i>x</i>}O_{<i>y</i>} combinatorial material library. RSC Advances, 2022, 12, 7996-8002.	3.6	5
93	An x-ray emission and density functional theory study of the electronic structure of Zn1â^’xMnxS. Journal of Physics Condensed Matter, 2006, 18, 10405-10412.	1.8	4
94	X-ray emission and photoluminescence spectroscopy of nanostructured silica with implanted copper ions. Physics of the Solid State, 2008, 50, 2322-2326.	0.6	4
95	Characterization of chemically treated titanium using soft X-ray fluorescence. Materials Science and Engineering C, 2009, 29, 136-139.	7.3	4
96	A spectrum deconvolution method based on grey relational analysis. Results in Physics, 2021, 23, 104031.	4.1	4
97	Determining the sp2/sp3 bonding concentrations of carbon films using X-ray absorption spectroscopy. Canadian Journal of Physics, 2008, 86, 1401-1407.	1.1	3
98	Intergrain variations of the chemical and electronic surface structure of polycrystalline Cu(In,Ga)Se2 thin-film solar cell absorbers. Applied Physics Letters, 2012, 101, .	3.3	3
99	The heavily intermixed In<inf>2</inf>S<inf>3</inf>/Cu(In,) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 50 427 Td (C spectroscopy. , 2013, , .		3
100	Impact of annealing on the chemical structure and morphology of the thin-film CdTe/ZnO interface. Journal of Applied Physics, 2014, 116, 024312.	2.5	3
101	Molecular orientation and optical luminescence properties of soluble star shaped oligothiophene molecules for organic electronic applications. Journal of Electron Spectroscopy and Related Phenomena, 2011, 184, 355-359.	1.7	2
102	Surface Off-Stoichiometry of CuInS$_{2}$ Thin-Film Solar Cell Absorbers. IEEE Journal of Photovoltaics, 2013, 3, 828-832.	2.5	2
103	Lateral inhomogeneity of the Mg/(Zn+Mg) composition at the (Zn,Mg)O/CuIn(S,Se)2 thin-film solar cell interface revealed by photoemission electron microscopy. Journal of Applied Physics, 2013, 113, 193709.	2.5	2
104	The Pb(Zr 0.2 ,Ti 0.8)O 3 /ZnO/GaN Ferroelectricâ€"Semiconductor Heterostructure: Insight into the Interfacial Energy Level Alignments. Advanced Materials Interfaces, 2020, 7, 2000201.	3.7	2
105	Local Environment of Fluorine Atoms in Sr[sub 2]Ca[sub n][sub â€" 1]Cu[sub n]O[sub 2][sub n][sub + Î']F[sub 2 Â±][sub y] (n = 2, 3) High-Temperature Superconductors Grown under High Pressure. Physics of the Solid State, 2005, 47, 1211.	0.6	1
106	X-ray spectra and electronic structure of Sc and Ti dihydrides. Journal of Physics Condensed Matter, 2008, 20, 335224.	1.8	1
107	p-Type a-Si:H/ZnO:Al and µc-Si:H/ZnO:Al thin-film solar cell structures—A comparative hard X-ray photoelectron spectroscopy study. , 2012, , .		1
108	Fast electron dynamics in vanadates measured by resonant inelastic x-ray scattering. Materials Letters, 2013, 107, 144-146.	2.6	1

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109	p-Type a-Si:H/ZnO:Al and µc-Si:H/ZnO:Al thin-film solar cell structures—A comparative hard X-ray photoelectron spectroscopy study. , 2013, , .		1
110	Photoinduced phase segregation and degradation of perovskites revealed by x-ray photoelectron spectroscopy. , 2019, , .		1
111	Hard x-ray photoelectron spectroscopy at a soft x-ray source: Present and future perspectives of hard x-ray photoelectron spectroscopy at BESSY II. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2021, 39, .	2.1	1
112	Identification of Impurity Phases in Cu2ZnSnS4 Thin-film Solar Cell Absorber Material by Soft X-ray Absorption Spectroscopy. Materials Research Society Symposia Proceedings, 2011, 1324, 91.	0.1	0
113	CdCl<inf>2</inf> activation-induced chemical interaction at the CdTe/ZnO<inf>1−x</inf>S<inf>x</inf> thin-film solar cell interface. , 2011, , .		0
114	Surface modification of polycrystalline Cu(In, Ga)Se<inf>2</inf> thin-film solar cell absorber surfaces for PEEM measurements. , 2011, , .		0
115	Surface off-stoichiometry of CuInS<inf>2</inf> thin-film solar cell absorbers. , 2012, , .		0
116	Surface off-stoichiometry of CuInS<inf>2</inf> thin-film solar cell absorbers. , 2013, , .		0
117	Microcrystalline silicon oxides for silicon-based solar cells: impact of the O/Si ratio on the electronic structure. , 2014, , .		0
118	Unraveling the Impact of Combined NaF/RbF Postdeposition Treatments on the Deeply Buried Cu(in,Ga)Se2/Mo Thinâ€Film Solar Cell Interface. Advanced Energy and Sustainability Research, 0, , 2100101.	5.8	0
119	InnenrÃ¼cktitelbild: Fluoridchemie in Zinnâ€Halogenidâ€Perowskiten (Angew. Chem. 39/2021). Angewandte Chemie, 2021, 133, 21763-21763.	2.0	0