

# John M Walls

## List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

132  
papers

2,304  
citations

26  
h-index

41  
g-index

156  
ext. papers

2,732  
ext. citations

4.1  
avg, IF

4.87  
L-index

#	Paper	IF	Citations
132	Selenium passivates grain boundaries in alloyed CdTe solar cells. <i>Solar Energy Materials and Solar Cells</i> , <b>2022</b> , 238, 111595	6.4	0
131	MOCVD of II-VI HRT/Emitters for Voc Improvements to CdTe Solar Cells. <i>Coatings</i> , <b>2022</b> , 12, 261	2.9	
130	Chlorine passivation of grain boundaries in cadmium telluride solar cells. <i>Physical Review Materials</i> , <b>2021</b> , 5,	3.2	2
129	Understanding the Copassivation Effect of Cl and Se for CdTe Grain Boundaries. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2021</b> , 13, 35086-35096	9.5	4
128	Artificial linear brush abrasion of coatings for photovoltaic module first-surfaces. <i>Solar Energy Materials and Solar Cells</i> , <b>2021</b> , 219, 110757	6.4	7
127	Sodium doping of solution-processed amine-thiol based CIGS solar cells by thermal evaporation of NaCl. <i>Progress in Photovoltaics: Research and Applications</i> , <b>2021</b> , 29, 546-557	6.8	6
126	Chlorine activated stacking fault removal mechanism in thin film CdTe solar cells: the missing piece. <i>Nature Communications</i> , <b>2021</b> , 12, 4938	17.4	4
125	Testing the Durability of Anti-Soiling Coatings for Solar Cover Glass by Outdoor Exposure in Denmark. <i>Energies</i> , <b>2020</b> , 13, 299	3.1	10
124	Enhancement of photovoltaic efficiency in CdSe Te (where $0 < x < 1$ ): insights from density functional theory. <i>Journal of Physics Condensed Matter</i> , <b>2020</b> , 32, 125702	1.8	10
123	Degradation of Hydrophobic, Anti-Soiling Coatings for Solar Module Cover Glass. <i>Energies</i> , <b>2020</b> , 13, 3813	3.1	6
122	Characterization of Sub-Bandgap Plasmon Excitations in Transparent Conducting Oxides with Electron Energy-Loss Spectroscopy. <i>Microscopy and Microanalysis</i> , <b>2019</b> , 25, 600-601	0.5	
121	Understanding the role of selenium in defect passivation for highly efficient selenium-alloyed cadmium telluride solar cells. <i>Nature Energy</i> , <b>2019</b> , 4, 504-511	62.3	80
120	Deposition and application of a MoS <sub>2</sub> back contact diffusion barrier yielding a 12.0% efficiency solution-processed CIGS solar cell using an amine/thiol solvent system. <i>Journal of Materials Chemistry A</i> , <b>2019</b> , 7, 7042-7052	13	14
119	Optimisation of the CZTSe thin film composition obtained by a sequential electrodeposition process. <i>Surface Engineering</i> , <b>2019</b> , 35, 854-860	2.6	2
118	Degradation of Mg-doped zinc oxide buffer layers in thin film CdTe solar cells. <i>Thin Solid Films</i> , <b>2019</b> , 691, 137556	2.2	11
117	Water based spray pyrolysis of metal-oxide solutions for Cu <sub>2</sub> ZnSn(S,Se) <sub>4</sub> solar cells using low toxicity amine/thiol complexants. <i>Thin Solid Films</i> , <b>2019</b> , 669, 588-594	2.2	5
116	The performance and durability of single-layer sol-gel anti-reflection coatings applied to solar module cover glass. <i>Surface and Coatings Technology</i> , <b>2019</b> , 358, 76-83	4.4	18

115	THE EFFECT OF ANNEALING PRESSURE AND TIME ON THE CRYSTALLINITY OF CZTSe. <i>Surface Review and Letters</i> , <b>2019</b> , 26, 1850151	1.1	1
114	Polycrystalline CdSeTe/CdTe Absorber Cells With 28 mA/cm <sup>2</sup> Short-Circuit Current. <i>IEEE Journal of Photovoltaics</i> , <b>2018</b> , 8, 310-314	3.7	100
113	High-Efficiency Nanoparticle Solution-Processed Cu(In,Ga)(S,Se) <sub>2</sub> Solar Cells. <i>IEEE Journal of Photovoltaics</i> , <b>2018</b> , 8, 288-292	3.7	8
112	Scalable Deposition of High-Efficiency Perovskite Solar Cells by Spray-Coating. <i>ACS Applied Energy Materials</i> , <b>2018</b> , 1, 1853-1857	6.1	59
111	Analysis and optimisation of the glass/TCO/MZO stack for thin film CdTe solar cells. <i>Solar Energy Materials and Solar Cells</i> , <b>2018</b> , 187, 15-22	6.4	24
110	Effect of CdCl <sub>2</sub> passivation treatment on microstructure and performance of CdSeTe/CdTe thin-film photovoltaic devices. <i>Solar Energy Materials and Solar Cells</i> , <b>2018</b> , 186, 259-265	6.4	41
109	Characterization of Sub-Bandgap Energy States in CuIn <sub>x</sub> Ga(1-x)Se <sub>2</sub> and Transparent Conducting Oxides with Electron Energy-Loss Spectroscopy. <i>Microscopy and Microanalysis</i> , <b>2018</b> , 24, 456-457	0.5	
108	Structural and chemical evolution of the CdS:O window layer during individual CdTe solar cell processing steps. <i>Solar Energy</i> , <b>2018</b> , 159, 940-946	6.8	14
107	Polycrystalline CdTe photovoltaics with efficiency over 18% through improved absorber passivation and current collection. <i>Solar Energy Materials and Solar Cells</i> , <b>2018</b> , 176, 9-18	6.4	86
106	<b>2018</b> ,		1
105	Advanced co-sublimation hardware for deposition of graded ternary alloys in thin-film applications <b>2018</b> ,		1
104	Defect Tolerance in as-deposited Selenium-alloyed Cadmium Telluride Solar Cells <b>2018</b> ,		1
103	Large Area 3D Elemental Mapping of a MgZnO/CdTe Solar Cell with Correlative EBSD Measurements <b>2018</b> ,		1
102	CdS barrier to minimize Zn loss during CdCl <sub>2</sub> treatment of Cd-Zn-Te absorbers. <i>Solar Energy</i> , <b>2018</b> , 173, 1181-1188	6.8	1
101	3D Distributions of Chlorine and Sulphur Impurities in a Thin-Film Cadmium Telluride Solar Cell. <i>MRS Advances</i> , <b>2018</b> , 3, 3287-3292	0.7	8
100	CdCl <sub>2</sub> passivation of polycrystalline CdMgTe and CdZnTe absorbers for tandem photovoltaic cells. <i>Journal of Applied Physics</i> , <b>2018</b> , 123, 203101	2.5	11
99	Development of ZnTe as a back contact material for thin film cadmium telluride solar cells. <i>Vacuum</i> , <b>2017</b> , 139, 159-163	3.7	32
98	Atmospheric-pressure plasma surface activation for solution processed photovoltaic devices. <i>Solar Energy</i> , <b>2017</b> , 146, 287-297	6.8	15

97	Measurement of thin film interfacial surface roughness by coherence scanning interferometry. <i>Journal of Applied Physics</i> , <b>2017</b> , 121, 105303	2.5	15
96	Optical optimization of high resistance transparent layers in thin film cadmium telluride solar cells. <i>Vacuum</i> , <b>2017</b> , 139, 196-201	3.7	7
95	An innovative approach for fabrication of Cu <sub>2</sub> ZnSnSe <sub>4</sub> absorber layers using solutions of elemental metal powders. <i>Thin Solid Films</i> , <b>2017</b> , 633, 151-155	2.2	4
94	Solution processing of CuIn(S,Se) <sub>2</sub> and Cu(In,Ga)(S,Se) <sub>2</sub> thin film solar cells using metal chalcogenide precursors. <i>Thin Solid Films</i> , <b>2017</b> , 633, 76-80	2.2	26
93	The effect of temperature on resistive ZnO layers and the performance of thin film CdTe solar cells. <i>Thin Solid Films</i> , <b>2017</b> , 633, 92-96	2.2	17
92	Magnesium-doped Zinc Oxide as a High Resistance Transparent Layer for thin film CdS/CdTe solar cells <b>2017</b> ,		5
91	Evolution of oxygenated cadmium sulfide (CdS:O) during high-temperature CdTe solar cell fabrication. <i>Solar Energy Materials and Solar Cells</i> , <b>2016</b> , 157, 276-285	6.4	21
90	The development of thin film metrology by coherence scanning interferometry <b>2016</b> ,		5
89	The roles of ZnTe buffer layers on CdTe solar cell performance. <i>Solar Energy Materials and Solar Cells</i> , <b>2016</b> , 147, 203-210	6.4	51
88	Refractive index determination by coherence scanning interferometry. <i>Applied Optics</i> , <b>2016</b> , 55, 4253-60.	0.2	7
87	Effect of varying deposition and substrate temperature on sublimated CdTe thin-film photovoltaics <b>2016</b> ,		4
86	Optical Optimization of Perovskite Solar Cell Structure for Maximum Current Collection. <i>Energy Procedia</i> , <b>2016</b> , 102, 11-18	2.3	6
85	The microstructure of thin film CdTe absorber layers deposited by pulsed dc magnetron sputtering <b>2016</b> ,		1
84	Effect of the cadmium chloride treatment on RF sputtered Cd <sub>0.6</sub> Zn <sub>0.4</sub> Te films for application in multijunction solar cells. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , <b>2016</b> , 34, 051202	2.9	9
83	High rate deposition of thin film CdTe solar cells by pulsed dc magnetron sputtering. <i>MRS Advances</i> , <b>2016</b> , 1, 917-922	0.7	5
82	Hydrazine-Free Solution-Deposited CuIn(S,Se) <sub>2</sub> Solar Cells by Spray Deposition of Metal Chalcogenides. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2016</b> , 8, 11893-7	9.5	26
81	Cadmium Chloride Assisted Re-Crystallisation of CdTe: The Effect on the CdS Window Layer. <i>Materials Research Society Symposia Proceedings</i> , <b>2015</b> , 1738, 7		8
80	The activation of thin film CdTe solar cells using alternative chlorine containing compounds. <i>Thin Solid Films</i> , <b>2015</b> , 582, 115-119	2.2	26

79	The structural properties of CdS deposited by chemical bath deposition and pulsed direct current magnetron sputtering. <i>Thin Solid Films</i> , <b>2015</b> , 582, 323-327	2.2	56
78	Solution-processed CuIn(S,Se) <sub>2</sub> absorber layers for application in thin film solar cells. <i>Thin Solid Films</i> , <b>2015</b> , 582, 31-34	2.2	22
77	A tunable amorphous p-type ternary oxide system: The highly mismatched alloy of copper tin oxide. <i>Journal of Applied Physics</i> , <b>2015</b> , 118, 105702	2.5	5
76	Comparison of DC and RF sputtered aluminium-doped zinc oxide for photovoltaic applications <b>2015</b> ,		2
75	The effect of a post-activation annealing treatment on thin film cdte device performance <b>2015</b> ,		9
74	Structural and chemical characterization of the back contact region in high efficiency CdTe solar cells <b>2015</b> ,		4
73	Internal strain analysis of CdTe thin films deposited by pulsed DC magnetron sputtering <b>2015</b> ,		2
72	High temperature stability of broadband Anti-Reflection coatings on soda lime glass for solar modules <b>2015</b> ,		3
71	Electrodeposition of CdTe thin films using nitrate precursor for applications in solar cells. <i>Journal of Materials Science: Materials in Electronics</i> , <b>2015</b> , 26, 3119-3128	2.1	48
70	High rate deposition of thin film cadmium sulphide by pulsed direct current magnetron sputtering. <i>Thin Solid Films</i> , <b>2015</b> , 574, 43-51	2.2	25
69	High quality aluminium doped zinc oxide target synthesis from nanoparticulate powder and characterisation of sputtered thin films. <i>Thin Solid Films</i> , <b>2014</b> , 566, 108-114	2.2	14
68	Multilayer Broadband Antireflective Coatings for More Efficient Thin Film CdTe Solar Cells. <i>IEEE Journal of Photovoltaics</i> , <b>2014</b> , 4, 452-456	3.7	44
67	High Mobility Titanium-doped Indium Oxide for Use in Tandem Solar Cells Deposited via Pulsed DC Magnetron Sputtering. <i>Energy Procedia</i> , <b>2014</b> , 60, 148-155	2.3	9
66	Deposition of cupric oxide thin films by spin coating. <i>Materials Research Innovations</i> , <b>2014</b> , 18, 95-98	1.9	4
65	Pinhole free thin film CdS deposited by chemical bath using a substrate reactive plasma treatment. <i>Journal of Renewable and Sustainable Energy</i> , <b>2014</b> , 6, 011202	2.5	16
64	Identification of critical stacking faults in thin-film CdTe solar cells. <i>Applied Physics Letters</i> , <b>2014</b> , 105, 062104	3.4	36
63	Aluminium-doped zinc oxide deposited by ultrasonic spray pyrolysis for thin film solar cell applications <b>2014</b> ,		2
62	Cupric Oxide-based p-type Transparent Conductors. <i>Energy Procedia</i> , <b>2014</b> , 60, 129-134	2.3	7

61	Inkjet and laser hybrid processing for series interconnection of thin film photovoltaics. <i>Materials Research Innovations</i> , <b>2014</b> , 18, 509-514	1.9	7
60	Cadmium Chloride Assisted Re-Crystallization of CdTe: The Effect of Varying the Annealing Time. <i>Materials Research Society Symposia Proceedings</i> , <b>2014</b> , 1638, 1		4
59	Room temperature surface passivation of silicon for screen printed c-Si solar cells by HiTUS reactive sputter deposition. <i>Applied Surface Science</i> , <b>2014</b> , 301, 51-55	6.7	6
58	Thin film thickness measurements using Scanning White Light Interferometry. <i>Thin Solid Films</i> , <b>2014</b> , 550, 10-16	2.2	35
57	The Effect of Cadmium Chloride Treatment on Close-Spaced Sublimated Cadmium Telluride Thin-Film Solar Cells. <i>IEEE Journal of Photovoltaics</i> , <b>2013</b> , 3, 1361-1366	3.7	52
56	Modelling the growth of ZnO thin films by PVD methods and the effects of post-annealing. <i>Journal of Physics Condensed Matter</i> , <b>2013</b> , 25, 135002	1.8	17
55	Cadmium chloride assisted re-crystallization of CdTe: The effect of the annealing temperature <b>2013</b> ,		2
54	Characterization of contacts produced using a laser ablation/inkjet one step interconnect process for thin film photovoltaics <b>2013</b> ,		1
53	Cupric Oxide Thin Films for Photovoltaic Applications. <i>Materials Research Society Symposia Proceedings</i> , <b>2013</b> , 1538, 185-190		
52	<b>2013</b> ,		3
51	The effect of cadmium chloride treatment on close spaced sublimated cadmium telluride thin film solar cells <b>2012</b> ,		5
50	Modeling evaporation, ion-beam assist, and magnetron sputtering of thin metal films over realistic time scales. <i>Physical Review B</i> , <b>2012</b> , 86,	3.3	20
49	Modeling evaporation, ion-beam assist, and magnetron sputtering of TiO <sub>2</sub> thin films over realistic timescales. <i>Journal of Materials Research</i> , <b>2012</b> , 27, 799-805	2.5	4
48	Characterization of Thin Film CdTe photovoltaic materials deposited by high plasma density magnetron sputtering. <i>Materials Research Society Symposia Proceedings</i> , <b>2011</b> , 1323, 145		4
47	Modeling the Sputter Deposition of Thin Film Photovoltaics using Long Time Scale Dynamics Techniques. <i>Materials Research Society Symposia Proceedings</i> , <b>2011</b> , 1327, 80401		3
46	Closed field magnetron sputtering: new generation sputtering process for optical coatings <b>2008</b> ,		5
45	Deposition of multilayer optical coatings using closed-field magnetron sputtering <b>2006</b> ,		2
44	Optical coatings and thin films for display technologies using closed-field magnetron sputtering <b>2004</b> ,		2

43	Quantitative secondary neutral mass spectroscopy of thin films. <i>Thin Solid Films</i> , <b>1991</b> , 200, 293-300	2.2	11
42	Sample rocking and rotation in ion beam etching. <i>Journal of Materials Science</i> , <b>1986</b> , 21, 123-130	4.3	10
41	Surface analytical techniques: their developing role in the characterisation of surfaces, thin films and surface coatings. <i>Transactions of the Institute of Metal Finishing</i> , <b>1984</b> , 62, 163-168	1.3	
40	An XPS study of the angular dependence of preferential sputtering and ion-induced reduction in lead oxide-containing glasses. <i>Vacuum</i> , <b>1984</b> , 34, 659-662	3.7	6
39	Surface morphology of Si(100), GaAs(100) and InP(100) following O <sub>2</sub> <sup>+</sup> and Cs <sup>+</sup> ion bombardment. <i>Vacuum</i> , <b>1984</b> , 34, 145-151	3.7	47
38	Deterministic models of ion erosion, reflection and redeposition. <i>Vacuum</i> , <b>1984</b> , 34, 175-180	3.7	22
37	Sputter-depth profiling in AES: Dependence of depth resolution on electron and ion beam geometry. <i>Surface and Interface Analysis</i> , <b>1983</b> , 5, 71-76	1.5	5
36	The application of taper-sectioning techniques for depth profiling using Auger electron spectroscopy. <i>Applications of Surface Science</i> , <b>1983</b> , 15, 93-107		17
35	An XPS study of ion-induced compositional changes with group II and group IV compounds. <i>Applications of Surface Science</i> , <b>1983</b> , 15, 224-237		168
34	Studies of the composition, ion-induced reduction and preferential sputtering of anodic oxide films on Hg <sub>0.8</sub> Cd <sub>0.2</sub> Te by XPS. <i>Surface Science</i> , <b>1983</b> , 135, 225-242	1.8	48
33	Summary Abstract: Surface topography of electronic materials following oxygen and cesium ion bombardment. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , <b>1983</b> , 1, 621-622	2.9	12
32	Surface morphology during ion etching The influence of redeposition. <i>Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties</i> , <b>1983</b> , 47, 453-481		15
31	Surface morphology during ion etching The influence of redeposition. <i>The Philosophical Magazine: Physics of Condensed Matter B, Statistical Mechanics, Electronic, Optical and Magnetic Properties</i> , <b>1983</b> , 47, 453-481		11
30	The development of surface topography using two ion beams. <i>Journal of Materials Science</i> , <b>1982</b> , 17, 1689-1699	4.3	16
29	The erosion of amorphous and crystalline surfaces by ion bombardment. <i>Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties</i> , <b>1981</b> , 44, 879-893		47
28	The application of surface analytical techniques to thin films and surface coatings. <i>Thin Solid Films</i> , <b>1981</b> , 80, 213-220	2.2	10
27	An XPS study of ion-induced dissociation on metal carbonate surfaces. <i>Vacuum</i> , <b>1981</b> , 31, 513-517	3.7	40
26	The depth resolution of composition-depth profiles obtained by ball-cratering and Auger electron spectroscopy. <i>Vacuum</i> , <b>1981</b> , 31, 625-629	3.7	5

25	Comparison of wear behaviour of single- and multilayer coated carbide cutting tools. <i>Metals Technology</i> , <b>1980</b> , 7, 293-299		19
24	The development of surface shape during sputter-depth profiling in Auger electron spectroscopy. <i>Surface and Interface Analysis</i> , <b>1980</b> , 2, 115-119	1.5	17
23	Improved sputter-depth profiles using two ion guns. <i>Applications of Surface Science</i> , <b>1980</b> , 5, 103-106		46
22	The development of a general three-dimensional surface under ion bombardment. <i>Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties</i> , <b>1980</b> , 42, 235-248		90
21	The structure and topographical modification of surfaces during depth profiling. <i>Thin Solid Films</i> , <b>1979</b> , 57, 201-207	2.2	16
20	CompositionDepth profiling and interface analysis of surface coatings using ball cratering and the scanning auger microprobe. <i>Surface and Interface Analysis</i> , <b>1979</b> , 1, 204-210	1.5	71
19	The development of surface topography during depth profiling in auger electron spectroscopy. <i>Surface Science</i> , <b>1979</b> , 80, 557-565	1.8	29
18	The depth of sputtering damage in tungsten by field-ion microscopy. <i>Radiation Effects</i> , <b>1979</b> , 45, 111-118		4
17	Magnification in the field-ion microscope. <i>Journal Physics D: Applied Physics</i> , <b>1979</b> , 12, 657-667	3	21
16	The shape of field-ion emitters. <i>Journal Physics D: Applied Physics</i> , <b>1979</b> , 12, 1589-1595	3	11
15	A comparison of vacuum-evaporated and ion-plated thin films using Auger electron spectroscopy. <i>Thin Solid Films</i> , <b>1978</b> , 54, 303-308	2.2	14
14	The projection geometry of the field-ion image. <i>Surface Science</i> , <b>1978</b> , 75, 129-140	1.8	22
13	Ion trajectories in the field-ion microscope. <i>Journal Physics D: Applied Physics</i> , <b>1978</b> , 11, 409-419	3	44
12	Ring counting in field-ion micrographs. <i>Journal of Microscopy</i> , <b>1978</b> , 113, 291-299	1.9	9
11	Quantitative analysis of field-ion micrographs using moiré techniques. <i>Surface Science</i> , <b>1977</b> , 67, 299-316	1.8	1
10	Field-ion microscope observations of helium ion bombardment damage in tungsten. <i>Surface Science</i> , <b>1976</b> , 61, 419-434	1.8	20
9	The optimum ion species for sputter-cleaning or ion profiling tungsten surfaces. <i>Surface Technology</i> , <b>1976</b> , 4, 255-268		4
8	A specimen temperature controller for field emission and field-ion microscopy. <i>Journal of Physics E: Scientific Instruments</i> , <b>1976</b> , 9, 96-97		5



7	A combined fim, aes and LEED study of the structure and composition of ion bombarded tungsten surfaces. <i>Surface Science</i> , <b>1975</b> , 50, 360-378	1.8	12
6	Observations of sputtering damage using the field-ion microscope. <i>Vacuum</i> , <b>1974</b> , 24, 471-474	3.7	13
5	The preparation of field electron/field-ion emitters by ion etching. <i>Vacuum</i> , <b>1974</b> , 24, 475-479	3.7	24
4	Field-ion Microscope Observations of Sputtered Tungsten Surfaces. <i>Japanese Journal of Applied Physics</i> , <b>1974</b> , 13, 355	1.4	2
3	Zone plates and field ion microscopy. <i>Applied Physics Letters</i> , <b>1973</b> , 23, 161-163	3.4	4
2	A moiré interpretation of field-ion microscopy. <i>Philosophical Magazine and Journal</i> , <b>1973</b> , 27, 915-927		7
1	Understanding the Role of CdTe in Polycrystalline CdSe x Te 1x /CdTe-Graded Bilayer Photovoltaic Devices. <i>Solar Rrl</i> , 2100523	7.1	1