John M Walls

List of Publications by Year in descending order

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#	Article	IF	CITATIONS
1	An XPS study of ion-induced compositional changes with group II and group IV compounds. Applications of Surface Science, 1983, 15, 224-237.	1.0	197
2	Polycrystalline CdSeTe/CdTe Absorber Cells With 28 mA/cm ² Short-Circuit Current. IEEE Journal of Photovoltaics, 2018, 8, 310-314.	1.5	175
3	Understanding the role of selenium in defect passivation for highly efficient selenium-alloyed cadmium telluride solar cells. Nature Energy, 2019, 4, 504-511.	19.8	145
4	Polycrystalline CdTe photovoltaics with efficiency over 18% through improved absorber passivation and current collection. Solar Energy Materials and Solar Cells, 2018, 176, 9-18.	3.0	126
5	The development of a general threeâ€dimensional surface under ion bombardment. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 1980, 42, 235-248.	0.7	91
6	The structural properties of CdS deposited by chemical bath deposition and pulsed direct current magnetron sputtering. Thin Solid Films, 2015, 582, 323-327.	0.8	82
7	Scalable Deposition of High-Efficiency Perovskite Solar Cells by Spray-Coating. ACS Applied Energy Materials, 2018, 1, 1853-1857.	2.5	78
8	Composition-Depth profiling and interface analysis of surface coatings using ball cratering and the scanning auger microprobe. Surface and Interface Analysis, 1979, 1, 204-210.	0.8	75
9	Effect of CdCl2 passivation treatment on microstructure and performance of CdSeTe/CdTe thin-film photovoltaic devices. Solar Energy Materials and Solar Cells, 2018, 186, 259-265.	3.0	71
10	The roles of ZnTe buffer layers on CdTe solar cell performance. Solar Energy Materials and Solar Cells, 2016, 147, 203-210.	3.0	67
11	The Effect of Cadmium Chloride Treatment on Close-Spaced Sublimated Cadmium Telluride Thin-Film Solar Cells. IEEE Journal of Photovoltaics, 2013, 3, 1361-1366.	1.5	66
12	Multilayer Broadband Antireflective Coatings for More Efficient Thin Film CdTe Solar Cells. IEEE Journal of Photovoltaics, 2014, 4, 452-456.	1.5	60
13	Studies of the composition, ion-induced reduction and preferential sputtering of anodic oxide films on Hg0.8Cd0.2Te by XPS. Surface Science, 1983, 135, 225-242.	0.8	57
14	Thin film thickness measurements using Scanning White Light Interferometry. Thin Solid Films, 2014, 550, 10-16.	0.8	57
15	Electrodeposition of CdTe thin films using nitrate precursor for applications in solar cells. Journal of Materials Science: Materials in Electronics, 2015, 26, 3119-3128.	1.1	57
16	Surface morphology of Si(100), GaAs(100) and InP(100) following O2+ and Cs+ ion bombardment. Vacuum, 1984, 34, 145-151.	1.6	52
17	Development of ZnTe as a back contact material for thin film cadmium telluride solar cells. Vacuum, 2017, 139, 159-163.	1.6	52
18	Improved sputter-depth profiles using two ion guns. Applications of Surface Science, 1980, 5, 103-106.	1.0	48

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19	The erosion of amorphous and crystalline surfaces by ion bombardment. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 1981, 44, 879-893.	0.7	48
20	Identification of critical stacking faults in thin-film CdTe solar cells. Applied Physics Letters, 2014, 105,	1.5	48
21	Ion trajectories in the field-ion microscope. Journal Physics D: Applied Physics, 1978, 11, 409-419.	1.3	47
22	An XPS study of ion-induced dissociation on metal carbonate surfaces. Vacuum, 1981, 31, 513-517.	1.6	44
23	The performance and durability of single-layer sol-gel anti-reflection coatings applied to solar module cover glass. Surface and Coatings Technology, 2019, 358, 76-83.	2.2	42
24	Hydrazine-Free Solution-Deposited CuIn(S,Se) ₂ Solar Cells by Spray Deposition of Metal Chalcogenides. ACS Applied Materials & Interfaces, 2016, 8, 11893-11897.	4.0	38
25	Solution processing of Culn(S,Se) 2 and Cu(In,Ga)(S,Se) 2 thin film solar cells using metal chalcogenide precursors. Thin Solid Films, 2017, 633, 76-80.	0.8	34
26	High rate deposition of thin film cadmium sulphide by pulsed direct current magnetron sputtering. Thin Solid Films, 2015, 574, 43-51.	0.8	33
27	Analysis and optimisation of the glass/TCO/MZO stack for thin film CdTe solar cells. Solar Energy Materials and Solar Cells, 2018, 187, 15-22.	3.0	33
28	The activation of thin film CdTe solar cells using alternative chlorine containing compounds. Thin Solid Films, 2015, 582, 115-119.	0.8	30
29	The development of surface topography during depth profiling in auger electron spectroscopy. Surface Science, 1979, 80, 557-565.	0.8	29
30	Evolution of oxygenated cadmium sulfide (CdS:O) during high-temperature CdTe solar cell fabrication. Solar Energy Materials and Solar Cells, 2016, 157, 276-285.	3.0	28
31	Testing the Durability of Anti-Soiling Coatings for Solar Cover Glass by Outdoor Exposure in Denmark. Energies, 2020, 13, 299.	1.6	27
32	Atmospheric-pressure plasma surface activation for solution processed photovoltaic devices. Solar Energy, 2017, 146, 287-297.	2.9	26
33	CdCl2 passivation of polycrystalline CdMgTe and CdZnTe absorbers for tandem photovoltaic cells. Journal of Applied Physics, 2018, 123, .	1.1	26
34	Degradation of Mg-doped zinc oxide buffer layers in thin film CdTe solar cells. Thin Solid Films, 2019, 691, 137556.	0.8	25
35	Artificial linear brush abrasion of coatings for photovoltaic module first-surfaces. Solar Energy Materials and Solar Cells, 2021, 219, 110757.	3.0	25
36	The preparation of field electron/field-ion emitters by ion etching. Vacuum, 1974, 24, 475-479.	1.6	24

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37	The projection geometry of the field-ion image. Surface Science, 1978, 75, 129-140.	0.8	24
38	Modeling evaporation, ion-beam assist, and magnetron sputtering of thin metal films over realistic time scales. Physical Review B, 2012, 86, .	1.1	24
39	Solution-processed CuIn(S,Se) 2 absorber layers for application in thin film solar cells. Thin Solid Films, 2015, 582, 31-34.	0.8	24
40	Deposition and application of a Mo–N back contact diffusion barrier yielding a 12.0% efficiency solution-processed CIGS solar cell using an amine–thiol solvent system. Journal of Materials Chemistry A, 2019, 7, 7042-7052.	5.2	24
41	The effect of temperature on resistive ZnO layers and the performance of thin film CdTe solar cells. Thin Solid Films, 2017, 633, 92-96.	0.8	23
42	Magnification in the field-ion microscope. Journal Physics D: Applied Physics, 1979, 12, 657-667.	1.3	22
43	Deterministic models of ion erosion, reflection and redeposition. Vacuum, 1984, 34, 175-180.	1.6	22
44	Measurement of thin film interfacial surface roughness by coherence scanning interferometry. Journal of Applied Physics, 2017, 121, .	1.1	22
45	Field-ion microscope observations of helium ion bombardment damage in tungsten. Surface Science, 1976, 61, 419-434.	0.8	21
46	The effect of cadmium chloride treatment on close spaced sublimated cadmium telluride thin film solar cells. , 2012, , .		21
47	Modelling the growth of ZnO thin films by PVD methods and the effects of post-annealing. Journal of Physics Condensed Matter, 2013, 25, 135002.	0.7	21
48	Comparison of wear behaviour of single- and multilayer coated carbide cutting tools. Metals Technology, 1980, 7, 293-299.	0.3	20
49	The application of taper-sectioning techniques for depth profiling using Auger electron spectroscopy. Applications of Surface Science, 1983, 15, 93-107.	1.0	20
50	Degradation of Hydrophobic, Anti-Soiling Coatings for Solar Module Cover Glass. Energies, 2020, 13, 3811.	1.6	20
51	The effect of a post-activation annealing treatment on thin film cdte device performance. , 2015, , .		19
52	Chlorine activated stacking fault removal mechanism in thin film CdTe solar cells: the missing piece. Nature Communications, 2021, 12, 4938.	5.8	19
53	The development of surface shape during sputter-depth profiling in Auger electron spectroscopy. Surface and Interface Analysis, 1980, 2, 115-119.	0.8	18
54	Pinhole free thin film CdS deposited by chemical bath using a substrate reactive plasma treatment. Journal of Renewable and Sustainable Energy, 2014, 6, 011202.	0.8	17

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55	Sodium doping of solutionâ€processed amineâ€thiol based CIGS solar cells by thermal evaporation of NaCl. Progress in Photovoltaics: Research and Applications, 2021, 29, 546-557.	4.4	17
56	The structure and topographical modification of surfaces during depth profiling. Thin Solid Films, 1979, 57, 201-207.	0.8	16
57	The development of surface topography using two ion beams. Journal of Materials Science, 1982, 17, 1689-1699.	1.7	16
58	High quality aluminium doped zinc oxide target synthesis from nanoparticulate powder and characterisation of sputtered thin films. Thin Solid Films, 2014, 566, 108-114.	0.8	16
59	Structural and chemical evolution of the CdS:O window layer during individual CdTe solar cell processing steps. Solar Energy, 2018, 159, 940-946.	2.9	16
60	Surface morphology during ion etching The influence of redeposition. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 1983, 47, 453-481.	0.7	15
61	Enhancement of photovoltaic efficiency in CdSe x Te1â^'x (where 0 â ©½ x â ©½ 1): insights from density functional theory. Journal of Physics Condensed Matter, 2020, 32, 125702.	0.7	15
62	Selenium passivates grain boundaries in alloyed CdTe solar cells. Solar Energy Materials and Solar Cells, 2022, 238, 111595.	3.0	15
63	A combined fim, aes and LEED study of the structure and composition of ion bombarded tungsten surfaces. Surface Science, 1975, 50, 360-378.	0.8	14
64	A comparison of vacuum-evaporated and ion-plated thin films using Auger electron spectroscopy. Thin Solid Films, 1978, 54, 303-308.	0.8	14
65	Quantitative secondary neutral mass spectroscopy of thin films. Thin Solid Films, 1991, 200, 293-300.	0.8	14
66	Understanding the Copassivation Effect of Cl and Se for CdTe Grain Boundaries. ACS Applied Materials & Interfaces, 2021, 13, 35086-35096.	4.0	14
67	Observations of sputtering damage using the field-ion microscope. Vacuum, 1974, 24, 471-474.	1.6	13
68	Effect of the cadmium chloride treatment on RF sputtered Cd0.6Zn0.4Te films for application in multijunction solar cells. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2016, 34, .	0.9	13
69	The application of surface analytical techniques to thin films and surface coatings. Thin Solid Films, 1981, 80, 213-220.	0.8	12
70	Summary Abstract: Surface topography of electronic materials following oxygen and cesium ion bombardment. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1983, 1, 621-622.	0.9	12
71	Sample rocking and rotation in ion beam etching. Journal of Materials Science, 1986, 21, 123-130.	1.7	12
72	Cupric Oxide-based p-type Transparent Conductors. Energy Procedia, 2014, 60, 129-134.	1.8	12

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73	The shape of field-ion emitters. Journal Physics D: Applied Physics, 1979, 12, 1589-1595.	1.3	11
74	Cadmium Chloride Assisted Re-Crystallisation of CdTe: The Effect on the CdS Window Layer. Materials Research Society Symposia Proceedings, 2015, 1738, 7.	0.1	11
75	3D Distributions of Chlorine and Sulphur Impurities in a Thin-Film Cadmium Telluride Solar Cell. MRS Advances, 2018, 3, 3287-3292.	0.5	11
76	Surface morphology during ion etching The influence of redeposition. The Philosophical Magazine: Physics of Condensed Matter B, Statistical Mechanics, Electronic, Optical and Magnetic Properties, 1983, 47, 453-481.	0.6	11
77	An XPS study of the angular dependence of preferential sputtering and ion-induced reduction in lead oxide-containing glasses. Vacuum, 1984, 34, 659-662.	1.6	10
78	High Mobility Titanium-doped Indium Oxide for Use in Tandem Solar Cells Deposited via Pulsed DC Magnetron Sputtering. Energy Procedia, 2014, 60, 148-155.	1.8	10
79	High-Efficiency Nanoparticle Solution-Processed Cu(In,Ga)(S,Se) ₂ Solar Cells. IEEE Journal of Photovoltaics, 2018, 8, 288-292.	1.5	10
80	Ring counting in fieldâ€ion micrographs. Journal of Microscopy, 1978, 113, 291-299.	0.8	9
81	Understanding the Role of CdTe in Polycrystalline CdSe _{<i>x</i>} Te _{1–<i>x</i>} /CdTeâ€Graded Bilayer Photovoltaic Devices. Solar Rrl, 2021, 5, .	3.1	9
82	Deposition of cupric oxide thin films by spin coating. Materials Research Innovations, 2014, 18, 95-98.	1.0	8
83	Inkjet and laser hybrid processing for series interconnection of thin film photovoltaics. Materials Research Innovations, 2014, 18, 509-514.	1.0	8
84	Refractive index determination by coherence scanning interferometry. Applied Optics, 2016, 55, 4253.	2.1	8
85	Optical Optimization of Perovskite Solar Cell Structure for Maximum Current Collection. Energy Procedia, 2016, 102, 11-18.	1.8	8
86	Optical optimization of high resistance transparent layers in thin film cadmium telluride solar cells. Vacuum, 2017, 139, 196-201.	1.6	8
87	Water based spray pyrolysis of metal-oxide solutions for Cu2ZnSn(S,Se)4 solar cells using low toxicity amine/thiol complexants. Thin Solid Films, 2019, 669, 588-594.	0.8	8
88	A moir $ ilde{A}$ ${f C}$ interpretation of field-ion microscopy. Philosophical Magazine and Journal, 1973, 27, 915-927.	1.8	7
89	The depth resolution of composition-depth profiles obtained by ball-cratering and Auger electron spectroscopy. Vacuum, 1981, 31, 625-629.	1.6	7
90	Closed field magnetron sputtering: new generation sputtering process for optical coatings. , 2008, , .		7

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91	One step thin-film PV interconnection process using laser and inkjet. , 2013, , .		7
92	Effect of varying deposition and substrate temperature on sublimated CdTe thin-film photovoltaics. , 2016, , .		7
93	High rate deposition of thin film CdTe solar cells by pulsed dc magnetron sputtering. MRS Advances, 2016, 1, 917-922.	0.5	7
94	Magnesium-doped Zinc Oxide as a High Resistance Transparent Layer for thin film CdS/CdTe solar cells. , 2017, , .		7
95	Chlorine passivation of grain boundaries in cadmium telluride solar cells. Physical Review Materials, 2021, 5, .	0.9	7
96	Sputter-depth profiling in AES: Dependence of depth resolution on electron and ion beam geometry. Surface and Interface Analysis, 1983, 5, 71-76.	0.8	6
97	Room temperature surface passivation of silicon for screen printed c-Si solar cells by HiTUS reactive sputter deposition. Applied Surface Science, 2014, 301, 51-55.	3.1	6
98	Structural and chemical characterization of the back contact region in high efficiency CdTe solar cells. , 2015, , .		6
99	An innovative approach for fabrication of Cu 2 ZnSnSe 4 absorber layers using solutions of elemental metal powders. Thin Solid Films, 2017, 633, 151-155.	0.8	6
100	CdS barrier to minimize Zn loss during CdCl2 treatment of Cd-Zn-Te absorbers. Solar Energy, 2018, 173, 1181-1188.	2.9	6
101	A specimen temperature controller for field emission and field-ion microscopy. Journal of Physics E: Scientific Instruments, 1976, 9, 96-97.	0.7	5
102	Deposition of multilayer optical coatings using closed-field magnetron sputtering. , 2006, , .		5
103	Modeling evaporation, ion-beam assist, and magnetron sputtering of TiO2 thin films over realistic timescales. Journal of Materials Research, 2012, 27, 799-805.	1.2	5
104	Cadmium Chloride Assisted Re-Crystallization of CdTe: The Effect of Varying the Annealing Time. Materials Research Society Symposia Proceedings, 2014, 1638, 1.	0.1	5
105	A tunable amorphous p-type ternary oxide system: The highly mismatched alloy of copper tin oxide. Journal of Applied Physics, 2015, 118, 105702.	1.1	5
106	High temperature stability of broadband Anti-Reflection coatings on soda lime glass for solar modules. , 2015, , .		5
107	The development of thin film metrology by coherence scanning interferometry. Proceedings of SPIE, 2016, , .	0.8	5
108	Activation of Thin Film CdTe Solar Cells Using a Cadmium Bromide Treatment. , 2018, , .		5

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109	Zone plates and field ion microscopy. Applied Physics Letters, 1973, 23, 161-163.	1.5	4
110	The optimum ion species for sputter-cleaning or ion profiling tungsten surfaces. Surface Technology, 1976, 4, 255-268.	0.4	4
111	The depth of sputtering damage in tungsten by field-ion microscopy. Radiation Effects, 1979, 45, 111-118.	0.4	4
112	Characterization of Thin Film CdTe photovoltaic materials deposited by high plasma density magnetron sputtering. Materials Research Society Symposia Proceedings, 2011, 1323, 145.	0.1	4
113	Cadmium chloride assisted re-crystallization of CdTe: The effect of the annealing temperature. , 2013, ,		4
114	Internal strain analysis of CdTe thin films deposited by pulsed DC magnetron sputtering. , 2015, , .		4
115	Advanced co-sublimation hardware for deposition of graded ternary alloys in thin-film applications. , 2018, , .		4
116	Modeling the Sputter Deposition of Thin Film Photovoltaics using Long Time Scale Dynamics Techniques. Materials Research Society Symposia Proceedings, 2011, 1327, 80401.	0.1	3
117	Chemical bath deposition of thin film CdSe layers for use in Se alloyed CdTe solar cells. , 2019, , .		3
118	THE EFFECT OF ANNEALING PRESSURE AND TIME ON THE CRYSTALLINITY OF CZTSe. Surface Review and Letters, 2019, 26, 1850151.	0.5	3
119	Combined Anti-soiling and Anti-reflection Coatings for Solar Modules. , 2021, , .		3
120	Abrasion resistance of hydrophobic, anti-soiling coatings for solar cover glass. , 2020, , .		3
121	Field-ion Microscope Observations of Sputtered Tungsten Surfaces. Japanese Journal of Applied Physics, 1974, 13, 355.	0.8	2
122	Optical coatings and thin films for display technologies using closed-field magnetron sputtering. , 2004, , .		2
123	Aluminium-doped zinc oxide deposited by ultrasonic spray pyrolysis for thin film solar cell applications. , 2014, , .		2
124	Comparison of DC and RF sputtered aluminium-doped zinc oxide for photovoltaic applications. , 2015, ,		2
125	Large Area 3D Elemental Mapping of a MgZnO/CdTe Solar Cell with Correlative EBSD Measurements. , 2018, , .		2
126	Optimisation of the CZTSe thin film composition obtained by a sequential electrodeposition process. Surface Engineering, 2019, 35, 854-860.	1.1	2

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127	Sputtered Aluminum Oxide and p ⁺ Amorphous Silicon Back-Contact for Improved Hole Extraction in Polycrystalline CdSe _x Te _{1-x} and CdTe Photovoltaics. , 2019, , .		2
128	Quantitative analysis of field-ion micrographs using moiré techniques. Surface Science, 1977, 67, 299-316.	0.8	1
129	Surface analytical techniques: their developing role in the characterisation of surfaces, thin films and surface coatings. Transactions of the Institute of Metal Finishing, 1984, 62, 163-168.	0.6	1
130	Metrology of silicon photovoltaic cells using Coherence Correlation Interferometry. , 2011, , .		1
131	Characterization of contacts produced using a laser ablation/inkjet one step interconnect process for thin film photovoltaics. , 2013, , .		1
132	Near infrared laser CdCl <inf>2</inf> heat treatment for CdTe solar cells. , 2016, , .		1
133	The microstructure of thin film CdTe absorber layers deposited by pulsed dc magnetron sputtering. , 2016, , .		1
134	Electronic properties of solution-processed Cu(In,Ga)(S,Se)2 solar cells using metal chalcogenides and amine-thiol solvent mixtures. , 2018, , .		1
135	Defect Tolerance in as-deposited Selenium-alloyed Cadmium Telluride Solar Cells. , 2018, , .		1
136	High Rate Deposition of CdSe Thin Films by Pulsed DC Magnetron Sputtering. , 2020, , .		1
137	MOCVD of II-VI HRT/Emitters for Voc Improvements to CdTe Solar Cells. Coatings, 2022, 12, 261.	1.2	1
138	Surface analysis. Analytical Proceedings, 1983, 20, 476.	0.4	0
139	<title>Techniques In Surface Microscopy And Analysis</title> . , 1983, , .		0
140	High-rate deposition of optical coatings by closed-field magnetron sputtering. , 2005, 5963, 355.		0
141	Application of closed field magnetron sputtering deposition in thin film photovoltaics. Proceedings of SPIE, 2009, , .	0.8	0
142	Combined thin-film thickness measurement and surface metrology of photovoltaic thin films using Coherence Correlation Interferometry. , 2012, , .		0
143	Atomistic modelling of titania grown using PVD methods. , 2012, , .		0
144	Cupric Oxide Thin Films for Photovoltaic Applications. Materials Research Society Symposia Proceedings, 2013, 1538, 185-190.	0.1	0

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145	Studies of laser generated debris in crystalline silicon solar cells. , 2013, , .		Ο
146	The effect of cadmium chloride treatment on close spaced sublimated cadmium telluride thin film solar cells. , 2013, , .		0
147	Solution-deposited Culn(S,Se)2 absorber layers from metal chalcogenides. , 2015, , .		Ο
148	Analysis and comparison of different selenization routes for nanoparticle ink deposited Cu(In <inf>1â^'x</inf> Ga <inf>x</inf>)(Se <inf>y</inf> 1â^'y) <inf>2</inf> solar cells. , 2016, , .		0
149	Characterization of CdTe Photovoltaic Devices Passivated Using Hydrogen Plasma. , 2017, , .		Ο
150	Exploring metastable defect behavior in solution-processed antimony doped CIGS thin film solar cells. , 2018, , .		0
151	Characterization of Sub-Bandgap Energy States in CulnxGa(i-x)Se2 and Transparent Conducting Oxides with Electron Energy-Loss Spectroscopy. Microscopy and Microanalysis, 2018, 24, 456-457.	0.2	0
152	Characterization of Sub-Bandgap Plasmon Excitations in Transparent Conducting Oxides with Electron Energy-Loss Spectroscopy. Microscopy and Microanalysis, 2019, 25, 600-601.	0.2	0
153	Analysis of MZO/CdTe photovoltaic device treated with cadmium bromide. , 2019, , .		Ο
154	Comparison of Cadmium Selenide Thin Films Deposited by Chemical Bath and Pulsed DC Sputtering for use in Cadmium Telluride Devices. , 2020, , .		0