Colin A Wolden

List of Publications by Year
in descending order

116	3,347	147801	168389
papers	citations	31 h-index	53 g-index

117	117	117	4783
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Compact ammonia reforming at low temperature using catalytic membrane reactors. Journal of Membrane Science, 2022, 644, 120147.	8.2	15
2	Dual-Wavelength Time-Resolved Photoluminescence Study of CdSe_xTe_{1-x} Surface Passivation via Mg_yZn_{1-y}O and Al₂O₃. IEEE Journal of Photovoltaics, 2022, 12, 309-315.	2.5	9
3	Argyrodite Superionic Conductors Fabricated from Metathesis-Derived Li₂S. ACS Applied Energy Materials, 2022, 5, 4029-4035.	5.1	9
4	Complementary interface formation toward high-efficiency all-back-contact perovskite solar cells. Cell Reports Physical Science, 2021, 2, 100363.	5.6	17
5	Controlling conduction band alignment and carrier concentration in gallium-doped magnesium zinc oxide by reactive cosputtering. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2021, 39, 022802.	2.1	6
6	Production and purification of anhydrous sodium sulfide. Journal of Sulfur Chemistry, 2021, 42, 426-442.	2.0	7
7	Design and operational considerations of catalytic membrane reactors for ammonia synthesis. AICHE Journal, 2021, 67, e17259.	3.6	12
8	Ammonia separation from N2 and H2 over LTA zeolitic imidazolate framework membranes. Journal of Membrane Science, 2021, 623, 119078.	8.2	28
9	3D/2D passivation as a secret to success for polycrystalline thin-film solar cells. Joule, 2021, 5, 1057-1073.	24.0	48
10	Carrier lifetime as a function of Se content for CdSe_xTe_{1-x} films grown on Al₂O₃ and MgZnO. , 2021, , .		3
11	Photoluminescence Study of the MgxZn1-xO/CdSeyTe1-y Interface: The Effect of Oxide Bandgap and Resulting Band Alignment. , 2021, , .		0
12	Tunability of ammonia adsorption over NaP zeolite. Microporous and Mesoporous Materials, 2021, 324, 111288.	4.4	18
13	Robust passivation of CdSeTe based solar cells using reactively sputtered magnesium zinc oxide. Solar Energy Materials and Solar Cells, 2021, 233, 111388.	6.2	13
14	Lithium sulfide nanocrystals as cathode materials for advanced batteries. Journal of Energy Chemistry, 2021, 63, 138-169.	12.9	10
15	Revealing the Importance of Front Interface Quality in Highly Doped CdSe_xTe_{1â€“x} Solar Cells. ACS Energy Letters, 2021, 6, 4203-4208.	17.4	11
16	Optical and Mechanical Properties of Nanocomposite Films Based on Polymethyl Methacrylate (PMMA) and Fumed Silica Nanoparticles. Polymer Engineering and Science, 2020, 60, 553-557.	3.1	8
17	Reversible multicolor chromism in layered formamidinium metal halide perovskites. Nature Communications, 2020, 11, 5234.	12.8	48
18	PdAu/YSZ composite hydrogen separation membranes with enhanced stability in the presence of CO. Journal of Membrane Science, 2020, 611, 118371.	8.2	11

#	Article	IF	Citations
19	Scalable Synthesis of Li₂S Nanocrystals for Solid-State Electrolyte Applications. Journal of the Electrochemical Society, 2020, 167, 070520.	2.9	14
20	Stable magnesium zinc oxide by reactive Co-Sputtering for CdTe-based solar cells. Solar Energy Materials and Solar Cells, 2020, 210, 110521.	6.2	24
21	Barium-Promoted Ruthenium Catalysts on Yittria-Stabilized Zirconia Supports for Ammonia Synthesis. ACS Sustainable Chemistry and Engineering, 2019, 7, 18038-18047.	6.7	16
22	Scalable Synthesis of Size-Controlled Li₂S Nanocrystals for Next-Generation Battery Technologies. ACS Applied Energy Materials, 2019, 2, 2246-2254.	5.1	20
23	Efficient Ammonia Decomposition in a Catalytic Membrane Reactor To Enable Hydrogen Storage and Utilization. ACS Sustainable Chemistry and Engineering, 2019, 7, 5975-5985.	6.7	84
24	High temperature deuterium enrichment using TiC coated vanadium membranes. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2019, 37, .	2.1	7
25	Crystal Growth and Atom Diffusion in (Cu)ZnTe/CdTe via Molecular Dynamics. IEEE Journal of Photovoltaics, 2018, 8, 594-599.	2.5	5
26	Experimental and Theoretical Insights into the Potential of V₂O₃ Surface Coatings for Hydrogen Permeable Vanadium Membranes. Journal of Physical Chemistry C, 2018, 122, 3488-3496.	3.1	13
27	Fabrication and operational considerations of hydrogen permeable Mo2C/V metal membranes and improvement with application of Pd. Journal of Membrane Science, 2018, 549, 559-566.	8.2	22
28	Structural and chemical evolution of the CdS:O window layer during individual CdTe solar cell processing steps. Solar Energy, 2018, 159, 940-946.	6.1	16
29	Mitigation of Crack Formation During Thermo-Mechanical Delamination of CdTe Solar Cells. , 2018, , .		1
30	Thermomechanical Lift-Off and Recontacting of CdTe Solar Cells. ACS Applied Materials & Interfaces, 2018, 10, 44854-44861.	8.0	20
31	Application of TiC in Vanadium-Based Hydrogen Membranes. Industrial & Engineering Chemistry Research, 2018, 57, 16084-16094.	3.7	19
32	Copper-induced recrystallization and interdiffusion of CdTe/ZnTe thin films. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2018, 36, .	2.1	8
33	Scalable Synthesis of Alkali Sulfide Nanocrystals Using a Bubble Column Reactor. Industrial & Engineering Chemistry Research, 2018, 57, 8436-8442.	3.7	10
34	Tradeâ€Offs in Thin Film Solar Cells with Layered Chalcostibite Photovoltaic Absorbers. Advanced Energy Materials, 2017, 7, 1601935.	19.5	58
35	Inhibition of hydrogen flux in palladium membranes by pressureâ€“induced restructuring of the membrane surface. Journal of Membrane Science, 2017, 535, 70-78.	8.2	15
36	Reactive Precipitation of Anhydrous Alkali Sulfide Nanocrystals with Concomitant Abatement of Hydrogen Sulfide and Cogeneration of Hydrogen. ChemSusChem, 2017, 10, 2904-2913.	6.8	15

#	Article	IF	Citations
37	Dense Inorganic Membranes for Hydrogen Separation. , 2017, , 271-363.		4
38	Reduction of Mg from a MgO/MgAl2O4 support by atomic hydrogen permeation through thin-film Pd membranes. Journal of Membrane Science, 2017, 541, 312-320.	8.2	6
39	Glass frit sealing method for macroscopic defects in Pd-based composite membranes with application in catalytic membrane reactors. Separation and Purification Technology, 2017, 172, 68-75.	7.9	16
40	The impact of different metallization layers on CdTe solar cells contacted with ZnTe:Cu buffer layers. , 2016, , .		2
41	CdTe solar cells employing CdS<inf>1â^'y</inf>Te<inf>y</inf> window layers. , 2016, , .		0
42	The role (or lack thereof) of nitrogen or ammonia adsorption-induced hydrogen flux inhibition on palladium membrane performance. Journal of Membrane Science, 2016, 514, 65-72.	8.2	31
43	Accelerated development of CuSbS₂ thin film photovoltaic device prototypes. Progress in Photovoltaics: Research and Applications, 2016, 24, 929-939.	8.1	74
44	PECVD Synthesis of Flexible Optical Coatings for Renewable Energy Applications. Plasma Processes and Polymers, 2016, 13, 184-190.	3.0	8
45	The roles of ZnTe buffer layers on CdTe solar cell performance. Solar Energy Materials and Solar Cells, 2016, 147, 203-210.	6.2	67
46	Thermodynamically Favorable Conversion of Hydrogen Sulfide into Valuable Products through Reaction with Sodium Naphthalenide. ChemPlusChem, 2015, 80, 1508-1512.	2.8	7
47	Facile Synthesis of Lithium Sulfide Nanocrystals for Use in Advanced Rechargeable Batteries. ACS Applied Materials & Interfaces, 2015, 7, 28444-28451.	8.0	39
48	The effect of copper on the sub-bandgap density of states of CdTe solar cells. Applied Physics Letters, 2015, 106, .	3.3	14
49	Properties of reactively sputtered oxygenated cadmium sulfide (CdS:O) and their impact on CdTe solar cell performance. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2015, 33, .	2.1	56
50	Controlled activation of ZnTe:Cu contacted CdTe solar cells using rapid thermal processing. Solar Energy Materials and Solar Cells, 2015, 133, 208-215.	6.2	104
51	Scalable synthesis of improved nanocrystalline, mesoporous tungsten oxide films with exceptional electrochromic performance. Solar Energy Materials and Solar Cells, 2015, 132, 6-14.	6.2	30
52	Rapid thermal processing of ZnTe:Cu contacted CdTe solar cells. , 2014, , .		16
53	Atom probe tomography for nanoscale characterization of CdTe device absorber layers and interfaces. , 2014, , .		8
54	Feature scale modeling of pulsed plasma-enhanced chemical vapor deposition. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2014, 32, .	1.2	4

#	Article	IF	Citations
55	Temperature Dependent Electrical and Dielectrics Properties of Metal-Insulator-Metal Capacitors with Alumina-Silicone Nanolaminate Films. Materials Research Society Symposia Proceedings, 2014, 1675, 169-176.	0.1	0
56	The influence of solâ€“gel processing on the electrochromic properties of mesoporous WO3 films produced by ultrasonic spray deposition. Solar Energy Materials and Solar Cells, 2014, 121, 163-170.	6.2	41
57	A comparison of the performance and stability of Pd/BCC metal composite membranes for hydrogen purification. International Journal of Hydrogen Energy, 2014, 39, 19009-19017.	7.1	39
58	Plasma assisted synthesis of WS2 for gas sensing applications. Chemical Physics Letters, 2014, 615, 6-10.	2.6	150
59	Self limiting deposition of pyrite absorbers by pulsed PECVD. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2014, 32, 021201.	2.1	7
60	Low-Temperature Synthesis of n-Type WS₂ Thin Films via H₂S Plasma Sulfurization of WO₃. Chemistry of Materials, 2014, 26, 3986-3992.	6.7	75
61	PdAu and PdAuAg composite membranes for hydrogen separation from synthetic water-gas shift streams containing hydrogen sulfide. Journal of Membrane Science, 2014, 465, 167-176.	8.2	59
62	Formation of octadecyltrichlorosilane (OTS) self-assembled monolayers on amorphous alumina. Applied Surface Science, 2013, 282, 291-296.	6.1	13
63	Defect analysis and mechanical performance of plasma-deposited thin films on flexible polycarbonate substrates. Applied Surface Science, 2013, 268, 416-424.	6.1	10
64	Mechanistic studies of hydrogen transport through <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si0001.gif" overflow="scroll"><mml:msub><mml:mrow><mml:mi mathvariant="normal">Mo</mml:mi></mml:mrow><mml:mrow><mml:mn>2</mml:mn></mml:mrow></mml:msub><mml:mi mathvariant="normal">C</mml:mi></mml:math>/V composite membranes. Journal of Membrane Science, 2013, 427, 150-154.	8.2	27
65	Field Dependent Electrical Conduction in Metal-Insulator-Metal Devices using Alumina-Silicone Nanolaminate Dielectrics. Materials Research Society Symposia Proceedings, 2013, 1547, 95-102.	0.1	0
66	Field Dependent Carrier Transport Mechanisms in Metal-Insulatorâ€“Metal Devices with Ba0.8Sr0.2TiO3/ZrO2 Heterostructured Thin Films as the Dielectric. Materials Research Society Symposia Proceedings, 2013, 1547, 53-60.	0.1	0
67	Low-temperature ozone exposure technique to modulate the stoichiometry of WO_xnanorods and optimize the electrochromic performance. Nanotechnology, 2012, 23, 255601.	2.6	33
68	Synthesis of Stoichiometric FeS₂ through Plasma-Assisted Sulfurization of Fe₂O₃ Nanorods. Journal of the American Chemical Society, 2012, 134, 17854-17857.	13.7	107
69	Poissonâ€“Boltzmann model of space charge layer effects on conductivity in randomly distributed nanoionic composites. Electrochimica Acta, 2012, 83, 454-462.	5.2	3
70	Ultrasonic spray deposition of high performance WO3 films using template-assisted solâ€“gel chemistry. Electrochemistry Communications, 2012, 25, 62-65.	4.7	22
71	Electrochromic films produced by ultrasonic spray deposition of tungsten oxide nanoparticles. Solar Energy Materials and Solar Cells, 2012, 99, 50-55.	6.2	52
72	Synthesis of Î²-Mo₂C Thin Films. ACS Applied Materials & Interfaces, 2011, 3, 517-521.	8.0	60

#	Article	IF	Citations
73	Photovoltaic manufacturing: Present status, future prospects, and research needs. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2011, 29, .	2.1	226
74	Plasma-enhanced chemical vapor deposition synthesis of silica-silicone nanolaminates using a single precursor. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2011, 29, .	2.1	11
75	Dense Carbide/Metal Composite Membranes for Hydrogen Separations Without Platinum Group Metals. Advanced Materials, 2011, 23, 3585-3589.	21.0	36
76	Activation of Hematite Nanorod Arrays for Photoelectrochemical Water Splitting. ChemSusChem, 2011, 4, 474-479.	6.8	160
77	Dielectric performance of hybrid alumina-silicone nanolaminates synthesized by plasma enhanced chemical vapor deposition. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2011, 29, .	2.1	12
78	Pulsed plasma-enhanced chemical vapor deposition of Al2O3â€“TiO2 nanolaminates. Thin Solid Films, 2010, 518, 3337-3341.	1.8	22
79	Self-limiting growth of anatase TiO2: A comparison of two deposition techniques. Thin Solid Films, 2010, 518, 6733-6737.	1.8	18
80	Photoelectrochemical Performance of Anatase TiO[sub 2] Thin Films Deposited by Self-Limiting Growth Techniques. Journal of the Electrochemical Society, 2010, 157, D432.	2.9	1
81	Self-limiting deposition of semiconducting ZnO by pulsed plasma-enhanced chemical vapor deposition. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2009, 27, 761-766.	2.1	14
82	Self-Limiting Deposition of Anatase TiO[sub 2] at Low Temperature by Pulsed PECVD. Electrochemical and Solid-State Letters, 2009, 12, H259.	2.2	19
83	Plasmaâ€Enhanced Atomic Layer Deposition of Semiconductor Grade ZnO Using Dimethyl Zinc. Chemical Vapor Deposition, 2009, 15, 15-20.	1.3	43
84	Plasma-Enhanced Atomic Layer Deposition of Anatase TiO₂ Using TiCl₄. Journal of Physical Chemistry C, 2009, 113, 16307-16310.	3.1	30
85	Digital Control of SiO₂ Film Deposition at Room Temperature. Journal of Physical Chemistry C, 2009, 113, 6906-6909.	3.1	8
86	Digital Control of SiO₂â^'TiO₂ Mixed-Metal Oxides by Pulsed PECVD. ACS Applied Materials & Interfaces, 2009, 1, 2586-2591.	8.0	20
87	An Analysis of the Deposition Mechanisms involved during Selfâ€Limiting Growth of Aluminum Oxide by Pulsed PECVD. Chemical Vapor Deposition, 2008, 14, 296-302.	1.3	32
88	Self-limiting deposition of aluminum oxide thin films by pulsed plasma-enhanced chemical vapor deposition. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2008, 26, 1079-1084.	2.1	26
89	Comparison of Electrolyte Performance for Ta[sub 2]O[sub 5] Thin Films Produced by Pulsed and Continuous Wave PECVD. Journal of the Electrochemical Society, 2008, 155, J168.	2.9	18
90	Enhancement of metal oxide deposition rate and quality using pulsed plasma-enhanced chemical vapor deposition at low frequency. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2008, 26, 1213-1217.	2.1	16

#	Article	IF	Citations
91	Self-limiting growth of tantalum oxide thin films by pulsed plasma-enhanced chemical vapor deposition. Applied Physics Letters, 2007, 90, 131504.	3.3	28
92	Effect of wall conditions on the self-limiting deposition of metal oxides by pulsed plasma-enhanced chemical vapor deposition. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2007, 25, 1493-1499.	2.1	14
93	Plasma and gas-phase characterization of a pulsed plasma-enhanced chemical vapor deposition system engineered for self-limiting growth of aluminum oxide thin films. Surface and Coatings Technology, 2007, 201, 8991-8997.	4.8	31
94	An investigation of annealing on the dielectric performance of TiO2thin films. Semiconductor Science and Technology, 2006, 21, 1573-1579.	2.0	56
95	The role of argon in plasma-assisted deposition of indium nitride. Journal of Crystal Growth, 2006, 286, 400-406.	1.5	5
96	Plasma-enhanced chemical vapor deposition of TiO2 thin films for dielectric applications. Thin Solid Films, 2006, 515, 1708-1713.	1.8	93
97	Room temperature chemical vapor deposition of c-axis ZnO. Journal of Crystal Growth, 2005, 274, 412-417.	1.5	107
98	The Role of Oxygen Dissociation in Plasma Enhanced Chemical Vapor Deposition of Zinc Oxide from Oxygen and Diethyl Zinc. Plasma Chemistry and Plasma Processing, 2005, 25, 169-192.	2.4	18
99	On the formation and stability of p-type conductivity in nitrogen-doped zinc oxide. Applied Physics Letters, 2005, 86, 112112.	3.3	211
100	An investigation of the role of plasma conditions on the deposition rate of electrochromic vanadium oxide thin films. Journal of Non-Crystalline Solids, 2005, 351, 1987-1994.	3.1	19
101	ZnO synthesis by high vacuum plasma-assisted chemical vapor deposition using dimethylzinc and atomic oxygen. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2004, 22, 2118-2125.	2.1	29
102	An experimental and modeling analysis of vapor transport deposition of cadmium telluride. Solar Energy Materials and Solar Cells, 2004, 83, 55-65.	6.2	40
103	An interrogation of the zinc oxideâ€“gallium oxide phase space by plasma enhanced chemical vapor deposition. Journal of Crystal Growth, 2004, 263, 283-290.	1.5	27
104	Modeling and measurement of film deposition in a one-dimensional hot-wire CVD system. Thin Solid Films, 2003, 430, 28-32.	1.8	7
105	Investigation of the role of plasma conditions on the deposition rate and electrochromic performance of tungsten oxide thin films. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2003, 21, 1927-1933.	2.1	26
106	An Investigation of the Plasma Chemistry Involved in the Synthesis of ZnO by PECVD. Journal of the Electrochemical Society, 2003, 150, C693.	2.9	34
107	High mobility oxides: Engineered structures to overcome intrinsic performance limitations of transparent conducting oxides. Applied Physics Letters, 2003, 83, 3933-3935.	3.3	27
108	Vapor Transport Deposition and Characterization of Polycrystalline CdTe Solar Absorbers. Materials Research Society Symposia Proceedings, 2003, 763, 5221.	0.1	3

#	Article	IF	Citations
109	Synthesis and Application of Electronic Oxides for Solar Energy. Materials Research Society Symposia Proceedings, 2002, 730, 1.	0.1	1
110	An X-ray Diffraction Investigation of Tin Oxide Deposition and Annealing. Materials Research Society Symposia Proceedings, 2001, 666, 171.	0.1	2
111	A Numerical and Experimental Investigation of the Influence of Mass Transfer on HF/H[sub 2]O Vapor-Phase Etching of Silicon Dioxide. Journal of the Electrochemical Society, 2000, 147, 4142.	2.9	3
112	The influences of reactant composition and substrate material on the combustion synthesis of diamond. Journal of Materials Research, 1999, 14, 259-269.	2.6	6
113	Atmospheric pressure chemical vapor deposition of CdTeâ€"reactor design considerations. , 1999, , .		0
114	The influence of nitrogen addition on the morphology, growth rate, and Raman spectra of combustion grown diamond. Diamond and Related Materials, 1998, 7, 1178-1183.	3.9	13
115	Low-temperature deposition of optically transparent diamond using a low-pressure flat flame. Diamond and Related Materials, 1997, 6, 1862-1867.	3.9	8
116	Solution Synthesis of Sb2S3 and Na3SbS4 Solid-State Electrolyte. Journal of the Electrochemical Society, 0, , .	2.9	1