

Dunbar P Birnie

List of Publications by Year in descending order

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83
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236925

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91
all docs

91
docs citations

91
times ranked

3936
citing authors

#	ARTICLE	IF	CITATIONS
1	Evaluation of the Tauc method for optical absorption edge determination: ZnO thin films as a model system. <i>Physica Status Solidi (B): Basic Research</i> , 2015, 252, 1700-1710.	1.5	795
2	Assessing Tauc Plot Slope Quantification: ZnO Thin Films as a Model System. <i>Physica Status Solidi (B): Basic Research</i> , 2018, 255, 1700393.	1.5	165
3	Crystallization kinetics and the JMAK equation. <i>Journal of Non-Crystalline Solids</i> , 1997, 219, 89-99.	3.1	159
4	Solar-to-vehicle (S2V) systems for powering commuters of the future. <i>Journal of Power Sources</i> , 2009, 186, 539-542.	7.8	144
5	Rational solvent selection strategies to combat striation formation during spin coating of thin films. <i>Journal of Materials Research</i> , 2001, 16, 1145-1154.	2.6	111
6	Coupled pair potential, thermochemical and phase diagram data for transition metal binary systems-VII. <i>Calphad: Computer Coupling of Phase Diagrams and Thermochemistry</i> , 1984, 8, 25-66.	1.6	107
7	Combined flow and evaporation of fluid on a spinning disk. <i>Physics of Fluids</i> , 1997, 9, 870-875.	4.0	65
8	and NMR observation of the reaction of acetic acid with titanium isopropoxide. <i>Materials Chemistry and Physics</i> , 1999, 59, 26-35.	4.0	64
9	Enhanced Electron Transport through Template-Derived Pore Channels in Dye-Sensitized Solar Cells. <i>Journal of Physical Chemistry C</i> , 2011, 115, 18342-18347.	3.1	61
10	Kinetics of transformation for anisotropic particles including shielding effects. <i>Journal of Chemical Physics</i> , 1995, 103, 3742-3746.	3.0	58
11	A Model for Drying Control Cosolvent Selection for Spin-Coating Uniformity: The Thin Film Limit. <i>Langmuir</i> , 2013, 29, 9072-9078.	3.5	48
12	Total-dose radiation effects on sol-gel derived PZT thin films. <i>IEEE Transactions on Nuclear Science</i> , 1992, 39, 2036-2043.	2.0	47
13	Avrami exponents for transformations producing anisotropic particles. <i>Journal of Non-Crystalline Solids</i> , 1996, 202, 290-296.	3.1	43
14	Calculation of quasibinary and quasiternary oxyntiride systems-IV. <i>Calphad: Computer Coupling of Phase Diagrams and Thermochemistry</i> , 1981, 5, 163-184.	1.6	37
15	Esterification kinetics in titanium isopropoxide-acetic acid solutions. <i>Journal of Materials Science</i> , 2000, 35, 367-374.	3.7	37
16	Economic and resilience benefit analysis of incorporating battery storage to photovoltaic array generation. <i>Renewable Energy</i> , 2019, 135, 652-662.	8.9	36
17	<title>Effect of solvent evaporation rate on skin formation during spin coating of complex solutions</title>. , 2000, , .		35
18	Improving Microstructured TiO ₂ Photoanodes for Dye Sensitized Solar Cells by Simple Surface Treatment. <i>Advanced Energy Materials</i> , 2011, 1, 879-887.	19.5	35

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19	Analysis of energy capture by vehicle solar roofs in conjunction with workplace plug-in charging. <i>Solar Energy</i> , 2016, 125, 219-226.	6.1	35
20	Model for the Ferroelectric Transition in Nonstoichiometric Lithium Niobate and Lithium Tantalate. <i>Journal of the American Ceramic Society</i> , 1991, 74, 988-993.	3.8	32
21	Combined flow and evaporation during spin coating of complex solutions. <i>Journal of Non-Crystalline Solids</i> , 1997, 218, 174-178.	3.1	29
22	Electrical and optical studies of flexible stainless steel mesh electrodes for dye sensitized solar cells. <i>Solar Energy Materials and Solar Cells</i> , 2011, 95, 2120-2125.	6.2	29
23	Quench media effects on iron partitioning and ordering in a lunar glass. <i>Journal of Non-Crystalline Solids</i> , 1984, 67, 397-412.	3.1	28
24	A Model for Silicon Self-Diffusion in Silicon Carbide: Anti-Site Defect Motion. <i>Journal of the American Ceramic Society</i> , 1986, 69, C-33-C-35.	3.8	28
25	Solvothermal Synthesis of Cu_3BiS_3 Enabled by Precursor Complexing. <i>ACS Sustainable Chemistry and Engineering</i> , 2013, 1, 306-308.	6.7	28
26	Comparison of pair potential and thermochemical models of the heat of formation of BCC and FCC alloys. <i>Calphad: Computer Coupling of Phase Diagrams and Thermochemistry</i> , 1982, 6, 93-126.	1.6	26
27	Near-IR Absorbing Solar Cell Sensitized With Bacterial Photosynthetic Membranes. <i>Photochemistry and Photobiology</i> , 2012, 88, 1467-1472.	2.5	26
28	Self-Assembled TiO_2 with Increased Photoelectron Production, and Improved Conduction and Transfer: Enhancing Photovoltaic Performance of Dye-Sensitized Solar Cells. <i>ACS Applied Materials & Interfaces</i> , 2011, 3, 3002-3010.	8.0	25
29	Templated titania films with meso- and macroporosities. <i>Materials Letters</i> , 2007, 61, 2191-2194.	2.6	24
30	Dye-Sensitized Solar Cells Based on TiO_2 Coatings with Dual Size-Scale Porosity. <i>Journal of the American Ceramic Society</i> , 2009, 92, 1921-1925.	3.8	24
31	Film/substrate/vacuum-chuck interactions during spin-coating. <i>Optical Engineering</i> , 1992, 31, 2012.	1.0	23
32	A Case Study in Striation Prevention by Targeted Formulation Adjustment: Aluminum Titanate Sol-Gel Coatings. <i>Chemistry of Materials</i> , 2002, 14, 1488-1492.	6.7	23
33	Effect of ramping-up rate on film thickness for spin-on processing. <i>Journal of Materials Science: Materials in Electronics</i> , 2005, 16, 715-720.	2.2	23
34	Economic trends and comparisons for optimizing grid-outage resilient photovoltaic and battery systems. <i>Applied Energy</i> , 2019, 256, 113892.	10.1	23
35	Cooling rate calculations for silicate glasses. <i>Journal of Geophysical Research</i> , 1986, 91, 509-513.	3.3	19
36	Limitations of the uniform effective field approximation due to doping of ferroelectric thin-film capacitors. <i>Journal of Applied Physics</i> , 1995, 78, 4766-4775.	2.5	19

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37	Broad band optical characterization of sol-gel TiO ₂ thin film microstructure evolution with temperature. <i>Thin Solid Films</i> , 2010, 518, 5467-5470.	1.8	19
38	On the structural integrity of the spinel block in the γ -alumina structure. <i>Acta Crystallographica Section B: Structural Science</i> , 2012, 68, 118-122.	1.8	19
39	Transformation kinetics for randomly oriented anisotropic particles. <i>Journal of Non-Crystalline Solids</i> , 1995, 189, 161-166.	3.1	18
40	The limit of non-stoichiometry in silicon carbide. <i>Journal of Materials Science</i> , 1990, 25, 2827-2834.	3.7	17
41	The spontaneous polarization as evidence for lithium disordering in LiNbO ₃ . <i>Journal of Materials Research</i> , 1990, 5, 1933-1939.	2.6	17
42	Optimal battery sizing for storm-resilient photovoltaic power island systems. <i>Solar Energy</i> , 2014, 109, 165-173.	6.1	17
43	Infrared observation of evaporative cooling during spin-coating processes. <i>Optical Engineering</i> , 1995, 34, 1782.	1.0	16
44	Effect of multilayer structure and laser pulse width on the reversible cycling of phase change optical storage media. <i>Journal of Applied Physics</i> , 1992, 71, 3680-3687.	2.5	15
45	Surface tension evolution during early stages of drying of sol-gel coatings. <i>Journal of Sol-Gel Science and Technology</i> , 2009, 49, 233-237.	2.4	15
46	Defect-based description of lithium diffusion into lithium niobate. <i>Journal of Applied Physics</i> , 1994, 76, 3422-3428.	2.5	14
47	Transformation kinetics in one-dimensional processes with continuous nucleation: The effect of shielding. <i>Journal of Chemical Physics</i> , 1996, 105, 5138-5144.	3.0	14
48	Optical video interpretation of interference colors from thin transparent films on silicon. <i>Materials Letters</i> , 2004, 58, 2795-2800.	2.6	14
49	Emulsion templating to obtain dual-size-scale mesoporous titania coatings. <i>Materials Letters</i> , 2009, 63, 2619-2621.	2.6	12
50	Investigation of surface roughness and hillock formation on platinized substrates used for Pt/PZT/Pt capacitor fabrication. <i>Integrated Ferroelectrics</i> , 1995, 7, 61-73.	0.7	11
51	Determination of the lithium Frenkel energy in lithium tantalate. <i>Journal of Applied Physics</i> , 1991, 69, 2485-2488.	2.5	10
52	Shielding effects in 1-D transformation kinetics. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1996, 223, 337-347.	2.6	10
53	Surface Skin Development and Rupture During Sol-Gel Spin-Coating. <i>Journal of Sol-Gel Science and Technology</i> , 2004, 31, 225-228.	2.4	10
54	Optical and electronic simulation of gallium arsenide/silicon tandem four terminal solar cells. <i>Solar Energy</i> , 2013, 97, 85-92.	6.1	9

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55	Evolution of surface relief during firing of PZT thin films. <i>Ferroelectrics</i> , 1994, 152, 67-72.	0.6	8
56	Laser interferometric calibration for real-time video color interpretation of thin fluid layers during spin coating. <i>Optics and Lasers in Engineering</i> , 2010, 48, 533-537.	3.8	8
57	The importance of silica morphology in silica-titania composites with dye sensitized solar functionality. <i>Thin Solid Films</i> , 2013, 537, 80-84.	1.8	8
58	Hydrogen Defects And Optical Damage In LiNbO3. <i>Proceedings of SPIE</i> , 1989, , .	0.8	6
59	Migration frequencies for complex diffusion paths. <i>Journal of Physics and Chemistry of Solids</i> , 1990, 51, 1313-1321.	4.0	6
60	An I-V measurement method and its application for characterizing ferroelectric PZT thin films. <i>Integrated Ferroelectrics</i> , 1994, 4, 31-43.	0.7	6
61	Nondestructive measurement of striation defect spacing using laser diffraction. <i>Journal of Materials Research</i> , 2001, 16, 3355-3360.	2.6	6
62	Materials Challenges in Integrated Optical Recording Heads. <i>MRS Bulletin</i> , 1990, 15, 25-30.	3.5	5
63	Optical and Electronic Simulation of Silicon/Germanium Tandem Four Terminal Solar Cells. <i>Journal of Solar Energy Engineering, Transactions of the ASME</i> , 2014, 136, .	1.8	5
64	High-temperature Hf-site-interchange chemistry in LiNbO3 and LiTaO3. <i>Journal of Materials Research</i> , 1993, 8, 1379-1386.	2.6	4
65	Two-dimensional model of geometric effects in thin film crystal orientation. <i>Journal of Chemical Physics</i> , 1994, 101, 4229-4235.	3.0	4
66	Spin Coating: Art and Science. , 2013, , 263-274.		4
67	Topological filtering for 3D microstructure segmentation. <i>Computational Materials Science</i> , 2022, 202, 110920.	3.0	4
68	Criteria for Diffusion by a Site-Interchange Mechanism. <i>Journal of the American Ceramic Society</i> , 1989, 72, 1277-1279.	3.8	3
69	Early-Stage Microstructure Development in Bi-Sr-Ca-Cu-O Glasses. <i>Journal of the American Ceramic Society</i> , 1993, 76, 3087-3092.	3.8	3
70	Passivation of ferroelectric PZT capacitors using spin-on-glass. <i>Integrated Ferroelectrics</i> , 1995, 6, 121-128.	0.7	3
71	Transformation kinetics of anisotropic particles in thin films. <i>Journal of Non-Crystalline Solids</i> , 1996, 196, 334-338.	3.1	3
72	Proton exchange in lithium niobate as an ambipolar diffusion process. <i>Ferroelectrics</i> , 1996, 185, 29-32.	0.6	3

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73	Oriental texture due to random anisotropic growth in one dimension. Scripta Materialia, 1996, 35, 361-366.	5.2	2
74	Investigation Of The Nb-Rich Phase Boundary Of LiNbO3. Proceedings of SPIE, 1989, 0968, 73.	0.8	1
75	Solid solution effects in coupled order-disorder ferroelectrics. Ferroelectrics, 1993, 145, 221-234.	0.6	1
76	Influence of Ti interfacial layers on the electrical and microstructural properties of SOL-gel prepared PZT films. Integrated Ferroelectrics, 1995, 6, 111-119.	0.7	1
77	Clustering effects in solution-based nanoparticle/template hybrid coatings. Journal of the Society for Information Display, 2007, 15, 1089-1093.	2.1	1
78	Neck formation in reactive sintering: A model 2-D experiment. Journal of Materials Research, 2012, 27, 1193-1197.	2.6	1
79	Evaluation of the Tauc method for optical absorption edge determination: ZnO thin films as a model system (Phys. Status Solidi B 8/2015). Physica Status Solidi (B): Basic Research, 2015, 252, n/a-n/a.	1.5	1
80	Thin film absorber selection to pair with silicon for 1-Sun tandem photovoltaics. Solar Energy, 2022, 238, 178-188.	6.1	1
81	High Resolution TEM and STEM Study of a Quenched MgO-Monticellite Ceramic. Journal of the Ceramic Association Japan, 1986, 94, 906-909.	0.2	0
82	Effect of RuOx bottom electrode annealing temperature on sol-gel derived PZT capacitors. Integrated Ferroelectrics, 1995, 10, 309-318.	0.7	0
83	Assessing the Limits of Accuracy for the Tauc Method for Optical 3 Band Gap Determination. , 0, , 1-15.		0