

Terry Alford

List of Publications by Year in descending order

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131
papers

2,691
citations

201674

27
h-index

206112

48
g-index

132
all docs

132
docs citations

132
times ranked

2653
citing authors

#	ARTICLE	IF	CITATIONS
1	Improved conductivity and mechanism of carrier transport in zinc oxide with embedded silver layer. Journal of Applied Physics, 2008, 103, .	2.5	209
2	Thickness dependence on the thermal stability of silver thin films. Applied Physics Letters, 2002, 81, 4287-4289.	3.3	181
3	Metallic conductivity and the role of copper in ZnO/Cu/ZnO thin films for flexible electronics. Applied Physics Letters, 2009, 94, .	3.3	124
4	Band gap shift in the indium-tin-oxide films on polyethylene naphthalate after thermal annealing in air. Journal of Applied Physics, 2006, 100, 083715.	2.5	122
5	High quality transparent TiO ₂ /Ag/TiO ₂ composite electrode films deposited on flexible substrate at room temperature by sputtering. APL Materials, 2013, 1, .	5.1	92
6	Characterization of the physical and electrical properties of Indium tin oxide on polyethylene naphthalate. Journal of Applied Physics, 2005, 98, 083705.	2.5	89
7	Stability of silver thin films on various underlying layers at elevated temperatures. Thin Solid Films, 2003, 429, 248-254.	1.8	88
8	Encapsulation of Ag films on SiO ₂ by Ti reactions using Ag–Ti alloy/bilayer structures and an NH ₃ ambient. Applied Physics Letters, 1996, 68, 3251-3253.	3.3	87
9	Optimization of Nb ₂ O ₅ /Ag/Nb ₂ O ₅ multilayers as transparent composite electrode on flexible substrate with high figure of merit. Journal of Applied Physics, 2012, 112, .	2.5	83
10	Agglomeration and percolation conductivity. Applied Physics Letters, 2001, 79, 3401-3403.	3.3	72
11	Comparison of texture evolution in Ag and Ag(Al) alloy thin films on amorphous SiO ₂ . Journal of Applied Physics, 2004, 95, 5180-5188.	2.5	72
12	Improvement of the thermal stability of silver metallization. Journal of Applied Physics, 2003, 94, 5393.	2.5	63
13	Formation of aluminum oxynitride diffusion barriers for Ag metallization. Applied Physics Letters, 1999, 74, 52-54.	3.3	61
14	Structural and optical properties of Ag-doped copper oxide thin films on polyethylene naphthalate substrate prepared by low temperature microwave annealing. Journal of Applied Physics, 2013, 113, .	2.5	61
15	Dopant activation in ion implanted silicon by microwave annealing. Journal of Applied Physics, 2009, 106, .	2.5	60
16	Contact angle measurements for adhesion energy evaluation of silver and copper films on parylene-nand SiO ₂ substrates. Journal of Applied Physics, 2003, 93, 919-923.	2.5	52
17	Tungsten–titanium diffusion barriers for silver metallization. Thin Solid Films, 2006, 515, 1998-2002.	1.8	47
18	Optimization of TiO ₂ /Cu/TiO ₂ Multilayer as Transparent Composite Electrode (TCE) Deposited on Flexible Substrate at Room Temperature. ECS Solid State Letters, 2014, 3, N33-N36.	1.4	47

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19	Conduction and transmission analysis in gold nanolayers embedded in zinc oxide for flexible electronics. <i>Applied Physics Letters</i> , 2010, 96, .	3.3	46
20	Effect of various annealing environments on electrical and optical properties of indium tin oxide on polyethylene naphthalate. <i>Journal of Applied Physics</i> , 2006, 99, 123711.	2.5	40
21	The effect of sputtering pressure on electrical, optical and structure properties of indium tin oxide on glass. <i>Thin Solid Films</i> , 2010, 518, 3326-3331.	1.8	36
22	Highest transmittance and high-mobility amorphous indium gallium zinc oxide films on flexible substrate by room-temperature deposition and post-deposition anneals. <i>Applied Physics Letters</i> , 2011, 99, .	3.3	36
23	Photocurrent enhancements of organic solar cells by altering dewetting of plasmonic Ag nanoparticles. <i>Scientific Reports</i> , 2015, 5, 14250.	3.3	36
24	The optimal TiO ₂ /Ag/TiO ₂ electrode for organic solar cell application with high device-specific Haacke figure of merit. <i>Solar Energy Materials and Solar Cells</i> , 2016, 157, 599-603.	6.2	35
25	Effect of excessive Pb content in the precursor solutions on the properties of the lead acetate derived CH ₃ NH ₃ PbI ₃ perovskite solar cells. <i>Solar Energy Materials and Solar Cells</i> , 2018, 174, 478-484.	6.2	31
26	Effectiveness of Ti, TiN, Ta, TaN, and W[sub 2]N as barriers for the integration of low-k dielectric hydrogen silsesquioxane. <i>Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena</i> , 2000, 18, 221.	1.6	29
27	Improved performance of ZnO nanostructured bulk heterojunction organic solar cells with nanowire-density modified by yttrium chloride introduction into solution. <i>Solar Energy Materials and Solar Cells</i> , 2013, 117, 273-278.	6.2	28
28	Thermal stability of tungsten-titanium diffusion barriers for silver metallization. <i>Thin Solid Films</i> , 2008, 516, 7451-7457.	1.8	26
29	Resistive Switching Characteristics of Flexible TiO ₂ Thin Film Fabricated by Deep Ultraviolet Photochemical Solution Method. <i>IEEE Electron Device Letters</i> , 2017, 38, 1528-1531.	3.9	26
30	Advanced silver-based metallization patterning for ULSI applications. <i>Microelectronic Engineering</i> , 2001, 55, 383-388.	2.4	23
31	Fabrication of Periodic Silicon Nanopillars in a Two-Dimensional Hexagonal Array with Enhanced Control on Structural Dimension and Period. <i>Langmuir</i> , 2015, 31, 4018-4023.	3.5	21
32	Transparent conductive electrodes of mixed TiO ₂ -indium tin oxide for organic photovoltaics. <i>Applied Physics Letters</i> , 2012, 100, .	3.3	20
33	Impact of excess lead on the stability and photo-induced degradation of lead halide perovskite solar cells. <i>Organic Electronics</i> , 2018, 59, 107-112.	2.6	20
34	Reactive ion etch of patterned and blanket silver thin films in Cl[sub 2]/O[sub 2] and O[sub 2] glow discharges. <i>Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena</i> , 1999, 17, 2204.	1.6	19
35	Improved efficiency of P3HT:PCBM solar cells by incorporation of silver oxide interfacial layer. <i>Journal of Applied Physics</i> , 2014, 116, .	2.5	19
36	Influence of defects and processing parameters on the properties of indium tin oxide films on polyethylene naphthalate substrate. <i>Journal of Applied Physics</i> , 2007, 102, .	2.5	18

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37	Influence of Joule heating during electromigration evaluation of silver lines. Thin Solid Films, 2009, 517, 1833-1836.	1.8	18
38	Thermal stability and adhesion improvement of Ag deposited on Pa-n by oxygen plasma treatment. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2000, 18, 2814.	1.6	17
39	Enhancement of Ag electromigration resistance by a novel encapsulation process. Materials Letters, 2000, 45, 157-161.	2.6	17
40	Investigation of the effects of different annealing ambients on Ag/Al bilayers: Electrical properties and morphology. Journal of Applied Physics, 2001, 90, 5591-5598.	2.5	17
41	Cu enhanced oxidation of SiGe and SiGeC. Applied Physics Letters, 1997, 70, 874-876.	3.3	16
42	Morphological and optical properties of Si nanostructures imbedded in SiO ₂ and Si ₃ N ₄ films grown by single source chemical vapor deposition. Journal of Applied Physics, 2002, 92, 7475-7480.	2.5	16
43	Effectiveness of reactive sputter-deposited TaN films as diffusion barriers for Ag metallization. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2004, 22, 2345.	1.6	15
44	Failure mechanisms of silver and aluminum on titanium nitride under high current stress. Thin Solid Films, 2005, 474, 235-244.	1.8	15
45	Formation of silicides in a cavity applicator microwave system. Applied Physics Letters, 2003, 83, 3918-3920.	3.3	14
46	Evaluation of diffusion barrier and electrical properties of tantalum oxynitride thin films for silver metallization. Thin Solid Films, 2004, 457, 338-345.	1.8	14
47	Fabrication of PZT/CuO composite films and their photovoltaic properties. Journal of Sol-Gel Science and Technology, 2018, 87, 285-291.	2.4	14
48	Kinetics of Ag/Al bilayer self-encapsulation. Journal of Applied Physics, 1999, 86, 5407-5412.	2.5	13
49	Use of TiN(O)/Ti as an effective intermediate stress buffer and diffusion barrier for Cu/parylene-n interconnects. Applied Physics Letters, 2001, 79, 3260-3262.	3.3	13
50	Improved Mobility and Transmittance of Room-Temperature-Deposited Amorphous Indium Gallium Zinc Oxide (a-IGZO) Films with Low-Temperature Postfabrication Anneals. Jom, 2013, 65, 519-524.	1.9	13
51	Enhanced power conversion efficiency and preferential orientation of the MAPbI ₃ perovskite solar cells by introduction of urea as additive. Organic Electronics, 2019, 73, 130-136.	2.6	13
52	Sheet resistance modeling of the Ti/SiO ₂ system upon high temperature annealing. Applied Physics Letters, 2000, 76, 64-66.	3.3	12
53	Microwave-cut silicon layer transfer. Applied Physics Letters, 2005, 87, 224103.	3.3	12
54	Susceptor assisted microwave annealing for recrystallization and dopant activation of arsenic-implanted silicon. Journal of Applied Physics, 2011, 110, .	2.5	12

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55	Susceptor-assisted microwave annealing for activation of arsenic dopants in silicon. Thin Solid Films, 2012, 520, 4314-4320.	1.8	11
56	Flexible Sensors Based on Radiation-Induced Diffusion of Ag in Chalcogenide Glass. IEEE Transactions on Nuclear Science, 2014, 61, 3432-3437.	2.0	11
57	Effect of Ag layer thickness on the electrical transport and optical properties of ZnO/Ag/MoO _x transparent composite electrodes and their use in P3HT:PC 61 BM-based organic solar cells. Materials Letters, 2014, 133, 183-185.	2.6	11
58	An approach to optimize pre-annealing aging and anneal conditions to improve photovoltaic performance of perovskite solar cells. Materials for Renewable and Sustainable Energy, 2019, 8, 1.	3.6	11
59	Effective dopant activation via low temperature microwave annealing of ion implanted silicon. Applied Physics Letters, 2013, 103, 192103.	3.3	10
60	Gate-Controlled Reverse Recovery for Characterization of LDMOS Body Diode. IEEE Electron Device Letters, 2014, 35, 1079-1081.	3.9	10
61	Titanium Nitridation on Copper Surfaces. Journal of the Electrochemical Society, 1996, 143, 2349-2353.	2.9	9
62	Direct patterning of nanometer-scale silicide structures on silicon by ion-beam implantation through a thin barrier layer. Applied Physics Letters, 2001, 78, 2727-2729.	3.3	9
63	Stability of silver thin films on cobalt and nickel silicides. Thin Solid Films, 2003, 434, 258-263.	1.8	9
64	Photoluminescence in Si _{1-x} Ge _x alloys. Applied Physics Letters, 1997, 70, 2353-2355.	3.3	8
65	Effect of alloying and cladding on the failure of silver metallization under high temperature and current stressing. Applied Physics Letters, 2005, 87, 172111.	3.3	8
66	Copper enhanced (111) texture in silver thin films on amorphous SiO ₂ . Journal of Applied Physics, 2007, 102, 083548.	2.5	8
67	Effect of Anneal Time on the Enhanced Performance of a-Si:H TFTs for Future Display Technology. Journal of Display Technology, 2011, 7, 306-310.	1.2	8
68	Optimization of antireflective zinc oxide nanorod arrays on seedless substrate for bulk-heterojunction organic solar cells. Applied Physics Letters, 2012, 101, 153301.	3.3	8
69	A Fast ΔT Screening Measurement for TDDDB Assessment of Ultra-Thick Inter-Metal Dielectrics. IEEE Electron Device Letters, 2014, 35, 117-119.	3.9	8
70	The effect of hole transfer layers and anodes on indium-free TiO ₂ /Ag/TiO ₂ electrode and ITO electrode based P3HT:PCBM organic solar cells. Solar Energy Materials and Solar Cells, 2018, 176, 324-330.	6.2	8
71	Encapsulation of Silver Via Nitridation of Ag/Ti Bilayer Structures. Materials Research Society Symposia Proceedings, 1996, 427, 355.	0.1	7
72	Flexible Ag-ChG Radiation Sensors: Limit of Detection and Dynamic Range Optimization Through Physical Design Tuning. IEEE Transactions on Nuclear Science, 2016, 63, 2137-2144.	2.0	7

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73	High electron mobility transistors on plastic flexible substrates. Applied Physics Letters, 2011, 98, .	3.3	6
74	Enhanced conductivity of Y-doped ZnO thin films by incorporation of multiple walled carbon nanotubes. Thin Solid Films, 2013, 527, 92-95.	1.8	6
75	Optically Excited MOS-Capacitor for Recombination Lifetime Measurement. IEEE Electron Device Letters, 2014, 35, 986-988.	3.9	6
76	Effect of Gold Thickness and Annealing on Optical and Electrical Properties of TiO ₂ /Au/TiO ₂ Multilayers as Transparent Composite Electrode on Flexible Substrate. Jom, 2015, 67, 840-844.	1.9	6
77	Improved performance of inverted perovskite solar cells due to the incorporation of zirconium acetylacetonate buffer layer. Solar Energy Materials and Solar Cells, 2019, 200, 109927.	6.2	6
78	Formation and kinetics of ion-induced yttrium silicide layers. Journal of Applied Physics, 1995, 77, 1010-1014.	2.5	5
79	Direct patterning of nanometer-scale silicide structures by focused ion-beam implantation through a thin barrier layer. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2001, 19, 2525.	1.6	5
80	Texture and surface morphology evolution of Ag(Cu) layers on indium tin oxide thin films. Journal Physics D: Applied Physics, 2008, 41, 155306.	2.8	5
81	Effect of Copper Addition on Electromigration Behavior of Silver Metallization. Applied Physics Express, 2009, 2, 096502.	2.4	5
82	Dopant Activation in Arsenic-Implanted Si by Susceptor-Assisted Low-Temperature Microwave Anneal. IEEE Electron Device Letters, 2011, 32, 1122-1124.	3.9	5
83	Effective dopant activation by susceptor-assisted microwave annealing of low energy boron implanted and phosphorus implanted silicon. Journal of Applied Physics, 2013, 114, 244903.	2.5	5
84	A Fast Technique to Screen Carrier Generation Lifetime Using DLTS on MOS Capacitors. IEEE Transactions on Electron Devices, 2014, 61, 3282-3288.	3.0	5
85	Effect of Different Substrates on the Wettability and Electrical Properties of Au Thin Films Deposited by Sputtering. Jom, 2015, 67, 845-848.	1.9	5
86	Passivation of triple cation perovskites using guanidinium iodide in inverted solar cells for improved open-circuit voltage and stability. Sustainable Energy and Fuels, 2021, 5, 2486-2493.	4.9	5
87	Au-mediated low-temperature solid phase epitaxial growth of a Si ₆ Ge _{1-x} alloy on Si(001). Journal of Applied Physics, 1996, 79, 3094-3102.	2.5	4
88	Microwave assisted low temperature encapsulation of Ag films by Cu reactions using Ag-Cu alloy structures. Materials Letters, 2012, 89, 163-165.	2.6	4
89	Reflectance Spectroscopy of Functional Ag-Cu Thin Films: Correlation of Reflectivity with Cu Content. Jom, 2013, 65, 538-541.	1.9	4
90	Optimization of IGZO/Cu/IGZO Multilayers as Transparent Composite Electrode on Flexible Substrate by Room-temperature Sputtering and Post-Deposition Anneals. Materials Research Society Symposia Proceedings, 2013, 1577, 1.	0.1	4

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91	Controlled ambient and temperature treatment of InGaZnO thin film transistors for improved bias-illumination stress reliability. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2014, 32, 021101.	2.1	4
92	Prediction of transmittance spectra for transparent composite electrodes with ultra-thin metal layers. Journal of Applied Physics, 2015, 118, .	2.5	4
93	Control of the Nucleation and Growth of the Lead Acetate Solution Derived CH ₃ NH ₃ PbI ₃ Films Leads to Enhanced Power Conversion Efficiency. ACS Applied Energy Materials, 2018, 1, 2898-2906.	5.1	4
94	Introduction of nitrogen gas flow and precursor aging process to improve the efficiency of the lead acetate derived CH ₃ NH ₃ PbI ₃ perovskite solar cells. Solar Energy Materials and Solar Cells, 2019, 190, 49-56.	6.2	4
95	Microwave annealing for preparation of crystalline hydroxyapatite thin films. Journal of Materials Science, 2006, 41, 7150-7158.	3.7	3
96	Texture formation in Ag thin films: Effect of Wâ€Ti diffusion barriers. Journal of Applied Physics, 2008, 104, 103534.	2.5	3
97	Microwave assisted growth of copper germanide thin films at very low temperatures. Applied Physics Letters, 2013, 103, .	3.3	3
98	Phenyl Ethylammonium Iodide introduction into inverted triple cation perovskite solar cells for improved VOC and stability. Organic Electronics, 2021, 93, 106121.	2.6	3
99	Characterization of thin photosensitive polyimide films for future metallization schemes. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2001, 19, 1253.	1.6	2
100	Ion beam analysis of silver thin films on cobalt silicides. Nuclear Instruments & Methods in Physics Research B, 2004, 219-220, 897-901.	1.4	2
101	Threshold Voltage Shift Variation of a-Si:H TFTs With Anneal Time. Materials Research Society Symposia Proceedings, 2010, 1245, 1.	0.1	2
102	A study of single-crystal silicon diodes integrated on flexible substrates using conductive adhesives. Applied Physics Letters, 2012, 100, 072103.	3.3	2
103	Characterization and Adhesion in Cu/Ru/SiO ₂ /Si Multilayer Nano-scale Structure for Cu Metallization. Journal of Materials Engineering and Performance, 2013, 22, 1085-1090.	2.5	2
104	Thermal stability of copper on Teâ€Ti thin films. Materials Letters, 2013, 113, 100-102.	2.6	2
105	Enhanced electrical performance of Agâ€Cu thin films after low temperature microwave processing. Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics, 2013, 31, 011204.	1.2	2
106	Carrier Recombination Lifetime Measurement in Silicon Epitaxial Layers Using Optically Excited MOS Capacitor Technique. IEEE Transactions on Electron Devices, 2015, 62, 1553-1560.	3.0	2
107	Controlled Microwave Processing of IGZO Thin Films for Improved Optical and Electrical Properties. Jom, 2015, 67, 1624-1628.	1.9	2
108	Self-Powered, Inkjet Printed Electrochromic Films on Flexible and Stretchable Substrate for Wearable Electronics Applications. , 2018, , .		2

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109	Effect of excessive Pb on the stability and performance of Pb-halide perovskite solar cells against photo-induced degradation. MRS Communications, 2019, 9, 189-193.	1.8	2
110	Improved photostability of inverted-structure perovskite solar cells with high power conversion efficiency by inserting CuI between PEDOT and MAPbI ₃ layers. Journal of Materials Science: Materials in Electronics, 2021, 32, 12929-12938.	2.2	2
111	Understanding the crystallization of triple-cation perovskites assisted by mixed antisolvents for improved solar cell device performance. Journal of Materials Science: Materials in Electronics, 2022, 33, 4415-4425.	2.2	2
112	Wet Oxidation of Si _{1-x-y} GexCy Layers on (100) Si. Materials Research Society Symposia Proceedings, 1995, 398, 625.	0.1	1
113	The Formation of Tin-Encapsulated Silver Films by Nitridation of Silver-refractory metal alloys in NH ₃ . Materials Research Society Symposia Proceedings, 1996, 427, 337.	0.1	1
114	Cobalt and Titanium Metallization of SiGeC for Shallow Contacts. Materials Research Society Symposia Proceedings, 1996, 427, 529.	0.1	1
115	High Mobility IGZO/ITO Double-layered Transparent Composite Electrode: A Thermal Stability Study. Materials Research Society Symposia Proceedings, 2013, 1577, 1.	0.1	1
116	Development of low-fluorine solution route and UV photolysis process for YBa ₂ Cu ₃ O _{7-δ} coated conductors. MRS Communications, 2018, 8, 1037-1042.	1.8	1
117	Heteroepitaxial Si _{1-x-y} Gex Cy Layer Growth on (100)Si by Atmospheric Pressure Chemical Vapor Deposition. Materials Research Society Symposia Proceedings, 1995, 399, 117.	0.1	0
118	X-Ray Diffraction Analysis of the Strain of SiGeC/(100)Si Alloys. Materials Research Society Symposia Proceedings, 1995, 399, 461.	0.1	0
119	Advanced silver metallization for ULSI applications. , 0, , .		0
120	The Integration of Low-k Dielectric Material Hydrogen Silsesquioxane (HSQ) with Nitride Thin Films as Barriers. Materials Research Society Symposia Proceedings, 2000, 612, 9111.	0.1	0
121	Kinetics Model for the Self-Encapsulation of Ag/Al Bilayers. Materials Research Society Symposia Proceedings, 2000, 612, 971.	0.1	0
122	Ion beam characterization of advanced metallization for ULSI applications. AIP Conference Proceedings, 2001, , .	0.4	0
123	A Study of Tungsten-Titanium Barriers in Silver Metallization. Materials Research Society Symposia Proceedings, 2007, 990, 1.	0.1	0
124	The Role of Sputter Pressure in Influencing Electrical and Optical Properties of ITO on Glass. Materials Research Society Symposia Proceedings, 2010, 1256, 1.	0.1	0
125	Mechanical and Electro-Mechanical Stress Effects on Performance of Flexible IZO TFTs. Materials Research Society Symposia Proceedings, 2012, 1443, 1.	0.1	0
126	Effect of Low-Temperature Microwave Processing and Copper Content on the Properties of Ag-Cu Thin Film Binary Alloys. Jom, 2013, 65, 534-537.	1.9	0

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127	Effect of Silver thickness and Annealing on Optical and Electrical Properties of Nb ₂ O ₅ /Ag/Nb ₂ O ₅ Multilayers as Transparent Composite Electrode on Flexible Substrate. Materials Research Society Symposia Proceedings, 2013, 1552, 101-106.	0.1	0
128	Determination of complex permittivity for low- and high-loss materials at microwave frequencies. , 2014, , .		0
129	A Method for Efficient Transmittance Spectrum Prediction of Transparent Composite Electrodes. Jom, 2015, 67, 1612-1616.	1.9	0
130	A Comparative Study on TID Influenced Lateral Diffusion of Group 11 Metals into Ge _x S _{1-x} and Ge _x Se _{1-x} Systems: A Flexible Radiation Sensor Development Perspective. IEEE Transactions on Nuclear Science, 2017, , 1-1.	2.0	0
131	The Extent of Dopant Activation after Microwave and Rapid Thermal Anneals Using Similar Heating Profiles. , 2015, , 141-148.		0