Matthias Wuttig

List of Publications by Year
in descending order

424 papers	31,912 citations	4641 85 h-index	5519 163 g-index
445 all docs	445 docs citations	445 times ranked	16938 citing authors

#	Article	IF	Citations
1	Phase-change materials for rewriteable data storage. Nature Materials, 2007, 6, 824-832.	13.3	3,054
2	Resonant bonding in crystalline phase-change materials. Nature Materials, 2008, 7, 653-658.	13.3	959
3	Phase-change materials for non-volatile photonic applications. Nature Photonics, 2017, 11, 465-476.	15.6	917
4	A map for phase-change materials. Nature Materials, 2008, 7, 972-977.	13.3	637
5	Structural transformations of Ge2Sb2Te5 films studied by electrical resistance measurements. Journal of Applied Physics, 2000, 87, 4130-4134.	1.1	621
6	Designing crystallization in phase-change materials for universal memory and neuro-inspired computing. Nature Reviews Materials, 2019, 4, 150-168.	23.3	572
7	Formation of a well-ordered aluminium oxide overlayer by oxidation of NiAl(110). Surface Science, 1991, 259, 235-252.	0.8	549
8	Disorder-induced localization in crystalline phase-change materials. Nature Materials, 2011, 10, 202-208.	13.3	515
9	A Switchable Midâ€Infrared Plasmonic Perfect Absorber with Multispectral Thermal Imaging Capability. Advanced Materials, 2015, 27, 4597-4603.	11.1	487
10	Magnetic live surface layers in Fe/Cu(100). Physical Review Letters, 1992, 69, 3831-3834.	2.9	471
11	The effect of front ZnO:Al surface texture and optical transparency on efficient light trapping in silicon thin-film solar cells. Journal of Applied Physics, 2007, 101, 074903.	1.1	469
12	Towards a universal memory?. Nature Materials, 2005, 4, 265-266.	13.3	462
13	Design Rules for Phaseâ€Change Materials in Data Storage Applications. Advanced Materials, 2011, 23, 2030-2058.	11.1	432
14	The role of vacancies and local distortions in the design of new phase-change materials. Nature Materials, 2007, 6, 122-128.	13.3	426
15	Phase change materials and phase change memory. MRS Bulletin, 2014, 39, 703-710.	1.7	404
16	Nanosecond switching in GeTe phase change memory cells. Applied Physics Letters, 2009, 95, .	1.5	385
17	Polycrystalline SnSe with a thermoelectric figure of merit greater than the single crystal. Nature Materials, 2021, 20, 1378-1384.	13.3	340
18	Density changes upon crystallization of Ge2Sb2.04Te4.74 films. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2002, 20, 230-233.	0.9	331

#	Article	IF	Citations
19	Reversible optical switching of highly confined phononâ€“polaritons with an ultrathin phase-changeÂmaterial. Nature Materials, 2016, 15, 870-875.	13.3	330
20	Beam switching and bifocal zoom lensing using active plasmonic metasurfaces. Light: Science and Applications, 2017, 6, e17016-e17016.	7.7	313
21	Laser induced crystallization of amorphous Ge2Sb2Te5 films. Journal of Applied Physics, 2001, 89, 3168-3176.	1.1	306
22	Structural Instability of Ferromagnetic fcc Fe Films on Cu(100). Physical Review Letters, 1995, 74, 765-768.	2.9	301
23	Unravelling the interplay of local structure and physical properties in phase-change materials. Nature Materials, 2006, 5, 56-62.	13.3	300
24	Active Chiral Plasmonics. Nano Letters, 2015, 15, 4255-4260.	4.5	271
25	Role of vacancies in metalâ€“insulator transitions of crystalline phase-change materials. Nature Materials, 2012, 11, 952-956.	13.3	258
26	Using Low-Loss Phase-Change Materials for Mid-Infrared Antenna Resonance Tuning. Nano Letters, 2013, 13, 3470-3475.	4.5	257
27	Incipient Metals: Functional Materials with a Unique Bonding Mechanism. Advanced Materials, 2018, 30, e1803777.	11.1	255
28	Efforts to improve carrier mobility in radio frequency sputtered aluminum doped zinc oxide films. Journal of Applied Physics, 2004, 95, 1911-1917.	1.1	251
29	Aging mechanisms in amorphous phase-change materials. Nature Communications, 2015, 6, 7467.	5.8	212
30	A Quantumâ€Mechanical Map for Bonding and Properties in Solids. Advanced Materials, 2019, 31, e1806280.	11.1	206
31	Rewritable phase-change optical recording in Ge2Sb2Te5 films induced by picosecond laser pulses. Applied Physics Letters, 2004, 84, 2250-2252.	1.5	196
32	Magnetically driven buckling and stability of ordered surface alloys: Cu(100)c(2Ã—2)Mn. Physical Review Letters, 1993, 70, 3619-3622.	2.9	184
33	Reversible Optical Switching of Infrared Antenna Resonances with Ultrathin Phase-Change Layers Using Femtosecond Laser Pulses. ACS Photonics, 2014, 1, 833-839.	3.2	181
34	Chalcogenides by Design: Functionality through Metavalent Bonding and Confinement. Advanced Materials, 2020, 32, e1908302.	11.1	179
35	Measurement of crystal growth velocity in a melt-quenched phase-change material. Nature Communications, 2013, 4, 2371.	5.8	176
36	Oxygen on Cu(100) â€“ a case of an adsorbate induced reconstruction. Surface Science, 1989, 213, 103-136.	0.8	175

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37	Unique Bond Breaking in Crystalline Phase Change Materials and the Quest for Metavalent Bonding. Advanced Materials, 2018, 30, e1706735.	11.1	175
38	Atomic force microscopy measurements of crystal nucleation and growth rates in thin films of amorphous Te alloys. Applied Physics Letters, 2004, 84, 5240-5242.	1.5	171
39	High-power laser light source for near-field optics and its application to high-density optical data storage. Applied Physics Letters, 1999, 75, 1515-1517.	1.5	166
40	Simultaneous optimization of electrical and thermal transport properties of Bi0.5Sb1.5Te3 thermoelectric alloy by twin boundary engineering. Nano Energy, 2017, 37, 203-213.	8.2	164
41	Origin of the Optical Contrast in Phase-Change Materials. Physical Review Letters, 2007, 98, 236403.	2.9	162
42	Investigation of SnSe, SnSe2, and Sn2Se3 alloys for phase change memory applications. Journal of Applied Physics, 2008, 103, .	1.1	159
43	Reversible switching in phase-change materials. Materials Today, 2008, 11, 20-27.	8.3	153
44	Mechanical stresses upon crystallization in phase change materials. Applied Physics Letters, 2001, 79, 3597-3599.	1.5	150
45	On the deposition rate in a high power pulsed magnetron sputtering discharge. Applied Physics Letters, 2006, 89, 154104.	1.5	149
46	Allâ€Dielectric Programmable Huygens' Metasurfaces. Advanced Functional Materials, 2020, 30, 1910259.	7.8	149
47	Chalcogenide Thermoelectrics Empowered by an Unconventional Bonding Mechanism. Advanced Functional Materials, 2020, 30, 1904862.	7.8	148
48	Phase-Change and Redox-Based Resistive Switching Memories. Proceedings of the IEEE, 2015, 103, 1274-1288.	16.4	142
49	Spectral Tuning of Localized Surface Phonon Polariton Resonators for Low-Loss Mid-IR Applications. ACS Photonics, 2014, 1, 718-724.	3.2	134
50	Phase change materials: From material science to novel storage devices. Applied Physics A: Materials Science and Processing, 2007, 87, 411-417.	1.1	132
51	Nucleation, Growth, and Aggregation of Ag Clusters on Liquid Surfaces. Physical Review Letters, 1998, 81, 622-625.	2.9	127
52	Atomic force microscopy study of laser induced phase transitions in Ge2Sb2Te5. Journal of Applied Physics, 1999, 86, 5879-5887.	1.1	127
53	Threshold field of phase change memory materials measured using phase change bridge devices. Applied Physics Letters, 2009, 95, .	1.5	127
54	Bonding Nature of Local Structural Motifs in Amorphous GeTe. Angewandte Chemie - International Edition, 2014, 53, 10817-10820.	7.2	125

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55	Electrically driven reprogrammable phase-change metasurface reaching 80% efficiency. Nature Communications, 2022, 13, 1696.	5.8	125
56	Phase-Change Memories on a Diet. Science, 2011, 332, 543-544.	6.0	124
57	Process characteristics and film properties upon growth of TiOxfilms by high power pulsed magnetron sputtering. Journal Physics D: Applied Physics, 2007, 40, 2108-2114.	1.3	123
58	Surface textured MF-sputtered ZnO films for microcrystalline silicon-based thin-film solar cells. Solar Energy Materials and Solar Cells, 2006, 90, 3054-3060.	3.0	120
59	Recent development on surface-textured ZnO:Al films prepared by sputtering for thin-film solar cell application. Thin Solid Films, 2008, 516, 5836-5841.	0.8	120
60	Phaseâ€Change Materials: Vibrational Softening upon Crystallization and Its Impact on Thermal Properties. Advanced Functional Materials, 2011, 21, 2232-2239.	7.8	120
61	Nanosecond threshold switching of GeTe6 cells and their potential as selector devices. Applied Physics Letters, 2012, 100, .	1.5	120
62	Femtosecond x-ray diffraction reveals a liquidâ€"liquid phase transition in phase-change materials. Science, 2019, 364, 1062-1067.	6.0	120
63	Growth, structure and morphology of ultrathin iron films on Cu(100). Surface Science, 1992, 264, 406-418.	0.8	119
64	Structural and optical properties of thin zirconium oxide films prepared by reactive direct current magnetron sputtering. Journal of Applied Physics, 2002, 92, 3599-3607.	1.1	117
65	On the relationship between the peak target current and the morphology of chromium nitride thin films deposited by reactive high power pulsed magnetron sputtering. Journal Physics D: Applied Physics, 2009, 42, 015304.	1.3	117
66	Calorimetric measurements of phase transformations in thin films of amorphous Te alloys used for optical data storage. Journal of Applied Physics, 2003, 93, 2389-2393.	1.1	113
67	Calorimetric measurements of structural relaxation and glass transition temperatures in sputtered films of amorphous Te alloys used for phase change recording. Journal of Materials Research, 2007, 22, 748-754.	1.2	112
68	Photochromic silver nanoparticles fabricated by sputter deposition. Journal of Applied Physics, 2005, 97, 094305.	1.1	110
69	Adsorbate-Induced Surface Stress: Phonon Anomaly and Reconstruction on Ni(001) Surfaces. Physical Review Letters, 1986, 56, 1583-1586.	2.9	107
70	Polariton nanophotonics using phase-change materials. Nature Communications, 2019, 10, 4487.	5.8	106
71	Structural transformations of fcc iron films on Cu(100). Surface Science, 1993, 291, 14-28.	0.8	103
72	Sb-Se-based phase-change memory device with lower power and higher speed operations. IEEE Electron Device Letters, 2006, 27, 445-447.	2.2	103

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73	High-Performance n-Type PbSeâ€"Cu₂Se Thermoelectrics through Conduction Band Engineering and Phonon Softening. Journal of the American Chemical Society, 2018, 140, 15535-15545.	6.6	103
74	Material study on reactively sputtered zinc oxide for thin film silicon solar cells. Thin Solid Films, 2006, 502, 286-291.	0.8	101
75	Switching Casimir forces with phase-change materials. Physical Review A, 2010, 82, .	1.0	101
76	Understanding the Structure and Properties of Sesquiâ€Chalcogenides (i.e.,) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 627 Td (V<sub>2</su	11.1	98
77	Correlation between structure, stress and deposition parameters in direct current sputtered zinc oxide films. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2002, 20, 2084.	0.9	97
78	Controlled Crystal Growth of Indium Selenide, In₂Se₃, and the Crystal Structures of Î±-In₂Se₃. Inorganic Chemistry, 2018, 57, 11775-11781.	1.9	97
79	Influence of Bi doping upon the phase change characteristics of Ge2Sb2Te5. Journal of Applied Physics, 2004, 96, 5557-5562.	1.1	92
80	The correlation between structure and magnetism for ultrathin metal films and surface alloys. Surface Science, 1995, 331-333, 659-672.	0.8	90
81	Electronic structure of two-dimensional magnetic alloys: c(2Ã—2) Mn on Cu(100) and Ni(100). Physical Review B, 1997, 55, 5404-5415.	1.1	90
82	Towards understanding the superior properties of transition metal oxynitrides prepared by reactive DC magnetron sputtering. Thin Solid Films, 2006, 502, 228-234.	0.8	89
83	Vibrational properties and bonding nature of Sb₂Se₃and their implications for chalcogenide materials. Chemical Science, 2015, 6, 5255-5262.	3.7	89
84	Element-resolved atomic structure imaging of rocksalt Ge2Sb2Te5 phase-change material. Applied Physics Letters, 2016, 108, .	1.5	89
85	Correlation between structure, stress and optical properties in direct current sputtered molybdenum oxide films. Thin Solid Films, 2003, 429, 135-143.	0.8	88
86	LEED structure determination of two ordered surface alloys: Cu(100)-c(2 Ã— 2)Mn and Ni(100)-c(2 Ã—) Tj ETQq0 0 0 rgBT /Overlock 10	0.8	87
87	The Rayleigh phonon dispersion curve on Cu(100) in the direction. Solid State Communications, 1986, 57, 445-447.	0.9	86
88	Structure and growth of Mn on Cu(100). Surface Science, 1992, 279, 251-264.	0.8	84
89	Temperature stability of sputtered niobiumâ€"oxide films. Journal of Applied Physics, 2002, 91, 4863-4871.	1.1	84
90	Impact of vacancy ordering on thermal transport in crystalline phase-change materials. Reports on Progress in Physics, 2015, 78, 013001.	8.1	84

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91	Influence of nitrogen content on properties of direct current sputtered TiOxNy films. Physica Status Solidi A, 2004, 201, 90-102.	1.7	81
92	Kinetics of crystal nucleation in undercooled droplets of Sb- and Te-based alloys used for phase change recording. Journal of Applied Physics, 2005, 98, 054910.	1.1	81
93	Viscosity and elastic constants of thin films of amorphous Te alloys used for optical data storage. Journal of Applied Physics, 2003, 94, 4908.	1.1	80
94	The Science and Technology of Phase Change Materials. Zeitschrift Fur Anorganische Und Allgemeine Chemie, 2012, 638, 2455-2465.	0.6	80
95	Phase Change Materials: Challenges on the Path to a Universal Storage Device. Annual Review of Condensed Matter Physics, 2012, 3, 215-237.	5.2	80
96	The Rayleigh phonon dispersion on Cu(100): A stress induced frequency shift?. European Physical Journal B, 1986, 65, 71-74.	0.6	79
97	Structure determination for Fe films on Cu(100). Surface Science, 1993, 282, 237-245.	0.8	78
98	Microscopic Complexity in Phaseâ€Change Materials and its Role for Applications. Advanced Functional Materials, 2015, 25, 6343-6359.	7.8	78
99	Thermoelectric Performance of IVâ€"VI Compounds with Octahedralâ€Like Coordination: A Chemicalâ€Bonding Perspective. Advanced Materials, 2018, 30, e1801787.	11.1	78
100	Experimental studies and limitations of the light trapping and optical losses in microcrystalline silicon solar cells. Solar Energy Materials and Solar Cells, 2008, 92, 1037-1042.	3.0	77
101	Minimum time for laser induced amorphization of Ge2Sb2Te5 films. Journal of Applied Physics, 2000, 88, 657-664.	1.1	76
102	Phase change materials. MRS Bulletin, 2012, 37, 118-123.	1.7	75
103	Ag-Segregation to Dislocations in PbTe-Based Thermoelectric Materials. ACS Applied Materials & Interfaces, 2018, 10, 3609-3615.	4.0	74
104	Process stabilization and enhancement of deposition rate during reactive high power pulsed magnetron sputtering of zirconium oxide. Surface and Coatings Technology, 2008, 202, 5033-5035.	2.2	73
105	Revealing nano-chemistry at lattice defects in thermoelectric materials using atom probe tomography. Materials Today, 2020, 32, 260-274.	8.3	73
106	Crystallization kinetics of Ge4Sb1Te5 films. Thin Solid Films, 2002, 408, 310-315.	0.8	72
107	Exceptionally High Average Power Factor and Thermoelectric Figure of Merit in n-type PbSe by the Dual Incorporation of Cu and Te. Journal of the American Chemical Society, 2020, 142, 15172-15186.	6.6	72
108	Identification of Te alloys with suitable phase change characteristics. Applied Physics Letters, 2003, 83, 2572-2574.	1.5	71

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109	Effect of indium doping on Ge2Sb2Te5 thin films for phase-change optical storage. Applied Physics A: Materials Science and Processing, 2005, 80, 1611-1616.	1.1	71
110	Crystallization kinetics of sputter-deposited amorphous AgInSbTe films. Journal of Applied Physics, 2001, 90, 3816-3821.	1.1	70
111	Crystal morphology and nucleation in thin films of amorphous Te alloys used for phase change recording. Journal of Applied Physics, 2005, 98, 054902.	1.1	69
112	Retarding Ostwald ripening through Gibbs adsorption and interfacial complexions leads to high-performance SnTe thermoelectrics. Energy and Environmental Science, 2021, 14, 5469-5479.	15.6	67
113	How fragility makes phase-change data storage robust: insights from ab initio simulations. Scientific Reports, 2014, 4, 6529.	1.6	66
114	Physical properties of thin GeO2 films produced by reactive DC magnetron sputtering. Thin Solid Films, 2000, 365, 82-89.	0.8	65
115	Structure formation upon reactive direct current magnetron sputteringof transition metal oxide films. Applied Physics Letters, 2004, 85, 748-750.	1.5	65
116	Metavalent Bonding in Crystalline Solids: How Does It Collapse?. Advanced Materials, 2021, 33, e2102356.	11.1	65
117	Structureâ€“performance relationship in pentacene/Al2O3 thin-film transistors. Synthetic Metals, 2004, 146, 279-282.	2.1	64
118	Unexpected Geâ€“Ge Contacts in the Twoâ€Dimensional Ge₄Se₃Te Phase and Analysis of Their Chemical Cause with the Density of Energy (DOE) Function. Angewandte Chemie - International Edition, 2017, 56, 10204-10208.	7.2	64
119	Switching between Crystallization from the Glassy and the Undercooled Liquid Phase in Phase Change Material Ge₂Sb₂Te₅. Advanced Materials, 2019, 31, e1900784.	11.1	64
120	The Dependence of Crystal Structure of Te-Based Phase-Change Materials on the Number of Valence Electrons. Advanced Materials, 2004, 16, 439-443.	11.1	63
121	Revisiting the Local Structure in Ge-Sb-Te based Chalcogenide Superlattices. Scientific Reports, 2016, 6, 22353.	1.6	63
122	Weak antilocalization and disorder-enhanced electron interactions in annealed films of the phase-change compound GeSb<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>2</mml:mn></mml:msub></mml:math>Te<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>4</mml:mn></mml:msub></mml:math>. Physical Review B, 2012, 86, .	1.1	62
123	Effect of heat treatment on structural, optical and mechanical properties of sputtered TiOxNy films. Thin Solid Films, 2004, 468, 48-56.	0.8	61
124	(GeTe)_{<i>x</i>}â€“(Sb₂Te₃)_{1â€“<i>x</i>} phaseâ€change thin films as potential thermoelectric materials. Physica Status Solidi (A) Applications and Materials Science, 2013, 210, 147-152.	0.8	61
125	Picosecond Electric-Field-Induced Threshold Switching in Phase-Change Materials. Physical Review Letters, 2016, 117, 067601.	2.9	59
126	Structure and composition of Pt10Ni90(100): A low energy electron diffraction study. Surface Science, 1990, 233, 239-247.	0.8	58

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127	Structural transformation of SbxSe100âˆ’x thin films for phase change nonvolatile memory applications. Journal of Applied Physics, 2005, 98, 014904.	1.1	58
128	Disorderâ€Induced Localization in Crystalline Pseudoâ€Binary GeTeâ€“Sb₂Te₃ Alloys between Ge₃Sb₂Te₆ and GeTe. Advanced Functional Materials, 2015, 25, 6399-6406.	7.8	58
129	On the phase formation of titanium oxide films grown by reactive high power pulsed magnetron sputtering. Journal Physics D: Applied Physics, 2009, 42, 115204.	1.3	57
130	Density-functional theory guided advances in phase-change materials and memories. MRS Bulletin, 2015, 40, 856-869.	1.7	57
131	In3SbTe2 as a programmable nanophotonics material platform for the infrared. Nature Communications, 2021, 12, 924.	5.8	57
132	Morphology and structure of laser-modified Ge2Sb2Te5 films studied by transmission electron microscopy. Thin Solid Films, 2001, 389, 239-244.	0.8	56
133	Direct atomic insight into the role of dopants in phase-change materials. Nature Communications, 2019, 10, 3525.	5.8	56
134	Discovering Electronâ€Transferâ€Driven Changes in Chemical Bonding in Lead Chalcogenides (PbX, where) Tj ETQq0 0 0 rgBT /Overlock	11.1	56
135	Changes in Electronic Structure and Chemical Bonding upon Crystallization of the Phase Change Material<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>GeSb</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:msub><mml:mi>Te</mml:mi><mm Physical Review Letters, 2008, 100, 016402.	2.9	55
136	The role of energetic ion bombardment during growth of TiO₂ thin films by reactive sputtering. Journal Physics D: Applied Physics, 2010, 43, 405303.	1.3	55
137	Design Parameters for Phaseâ€Change Materials for Nanostructure Resonance Tuning. Advanced Optical Materials, 2017, 5, 1700261.	3.6	55
138	Low-temperature p2mg (2 Ã— 1) structure of ultrathin epitaxial films Fe/Cu(100). Surface Science, 1991, 256, 115-122.	0.8	54
139	Epitaxial Pt(111) thin film electrodes on YSZ(111) and YSZ(100) â€" Preparation and characterisation. Solid State Ionics, 2007, 178, 327-337.	1.3	54
140	Low-Cost Infrared Resonant Structures for Surface-Enhanced Infrared Absorption Spectroscopy in the Fingerprint Region from 3 to 13 Î¼m. Journal of Physical Chemistry C, 2013, 117, 11311-11316.	1.5	54
141	Amorphous and highly nonstoichiometric titania (TiOx) thin films close to metal-like conductivity. Journal of Materials Chemistry A, 2014, 2, 6631.	5.2	54
142	A Review on Disorder-Driven Metalâ€“Insulator Transition in Crystalline Vacancy-Rich GeSbTe Phase-Change Materials. Materials, 2017, 10, 862.	1.3	54
143	Structural, optical and mechanical properties of aluminium nitride films prepared by reactive DC magnetron sputtering. Thin Solid Films, 2006, 502, 235-239.	0.8	53
144	Atomic stacking and van-der-Waals bonding in GeTeâ€“Sb₂Te₃ superlattices. Journal of Materials Research, 2016, 31, 3115-3124.	1.2	53

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145	Cu Intercalation and Br Doping to Thermoelectric SnSe₂ Lead to Ultrahigh Electron Mobility and Temperatureâ€Independent Power Factor. Advanced Functional Materials, 2020, 30, 1908405.	7.8	53
146	Nbâ€Mediated Grain Growth and Grainâ€Boundary Engineering in Mg₃Sb₂â€Based Thermoelectric Materials. Advanced Functional Materials, 2021, 31, 2100258.	7.8	53
147	Preparation and characterization of tantalum oxide films produced by reactive DC magnetron sputtering. Physica Status Solidi A, 2003, 198, 99-110.	1.7	51
148	Structural and magnetic properties of ultrathin Fe films deposited at low temperature on Cu(100). Surface Science, 1994, 321, 32-46.	0.8	50
149	Atomic mechanisms of the formation of an ordered surface alloy: an STM investigation of. Surface Science, 1997, 371, 14-29.	0.8	50
150	Growth and characterization of zirconium oxynitride films prepared by reactive direct current magnetron sputtering. Journal of Applied Physics, 2002, 92, 2461-2466.	1.1	50
151	Structural and optical properties of thin lead oxide films produced by reactive direct current magnetron sputtering. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2001, 19, 2870.	0.9	49
152	2D or Not 2D: Strain Tuning in Weakly Coupled Heterostructures. Advanced Functional Materials, 2018, 28, 1705901.	7.8	49
153	Characterization of Niobium Oxide Films Prepared by Reactive DC Magnetron Sputtering. Physica Status Solidi A, 2001, 188, 1047-1058.	1.7	48
154	Characteristic Ordering in Liquid Phaseâ€Change Materials. Advanced Materials, 2008, 20, 4535-4540.	11.1	48
155	Incident Angle-Tuning of Infrared Antenna Array Resonances for Molecular Sensing. ACS Photonics, 2015, 2, 1498-1504.	3.2	48
156	Modeling of laser pulsed heating and quenching in optical data storage media. Journal of Applied Physics, 1999, 86, 1808-1816.	1.1	47
157	Advanced Optical Programming of Individual Metaâ€Atoms Beyond the Effective Medium Approach. Advanced Materials, 2019, 31, e1901033.	11.1	47
158	Ultrathin Metal Films. Springer Tracts in Modern Physics, 2004, , .	0.1	47
159	Atomic mechanisms for the diffusion of Mn atoms incorporated in the Cu(100) surface: an STM study. Surface Science, 1997, 371, 1-13.	0.8	46
160	Function by defects at the atomic scale â€" New concepts for non-volatile memories. Solid-State Electronics, 2010, 54, 830-840.	0.8	46
161	Analysis of Transient Currents During Ultrafast Switching of $hbox{TiO}_{2}$ Nanocrossbar Devices. IEEE Electron Device Letters, 2011, 32, 1116-1118.	2.2	46
162	Quantification of the composition of alloy and oxide surfaces using lowâ€energy ion scattering. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1994, 12, 2308-2313.	0.9	45

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163	Process stabilization and increase of the deposition rate in reactive sputtering of metal oxides and oxynitrides. Applied Physics Letters, 2006, 88, 161504.	1.5	45
164	Relation between bandgap and resistance drift in amorphous phase change materials. Scientific Reports, 2015, 5, 17362.	1.6	45
165	Influence of doping upon the phase change characteristics of Ge2Sb2Te5. Microsystem Technologies, 2006, 13, 203-206.	1.2	44
166	Fast transformers. Nature Materials, 2012, 11, 270-271.	13.3	44
167	How Supercooled Liquid Phase-Change Materials Crystallize: Snapshots after Femtosecond Optical Excitation. Chemistry of Materials, 2015, 27, 5641-5646.	3.2	44
168	A chemical link between Geâ€“Sbâ€“Te and Inâ€“Sbâ€“Te phase-change materials. Journal of Materials Chemistry C, 2015, 3, 9519-9523.	2.7	44
169	Mg Deficiency in Grain Boundaries of nâ€Type Mg₃Sb₂ Identified by Atom Probe Tomography. Advanced Materials Interfaces, 2019, 6, 1900429.	1.9	44
170	Phase transitions in Gaâ€“Sb phase change alloys. Physica Status Solidi (B): Basic Research, 2012, 249, 1999-2004.	0.7	43
171	Highly Confined and Switchable Mid-Infrared Surface Phonon Polariton Resonances of Planar Circular Cavities with a Phase Change Material. Nano Letters, 2019, 19, 2549-2554.	4.5	43
172	The interplay between Peierls distortions and metavalent bonding in IVâ€“VI compounds: comparing GeTe with related monochalcogenides. Journal Physics D: Applied Physics, 2020, 53, 234002.	1.3	43
173	Lowâ€Temperature Transport in Crystalline Ge₁Sb₂Te₄. Advanced Functional Materials, 2015, 25, 6390-6398.	7.8	42
174	The adsorption of sulfur, carbon monoxide and oxygen on NiAl(111). Surface Science, 1987, 189-190, 438-447.	0.8	41
175	Structural models for the Cu(100)()R45Â°-O phase. Surface Science, 1989, 224, L979-L982.	0.8	41
176	Advanced characterization tools for thin films in low- E systems. Thin Solid Films, 1999, 351, 184-189.	0.8	41
177	Influence of Sn doping upon the phase change characteristics of Ge2Sb2Te5. Physica Status Solidi A, 2004, 201, 3087-3095.	1.7	41
178	Influence of Partial Substitution of Te by Se and Ge by Sn on the Properties of the Blu-ray Phase-Change Material Ge₈Sb₂Te₁₁. Chemistry of Materials, 2012, 24, 3582-3590.	3.2	41
179	Dielectric properties of amorphous phase-change materials. Physical Review B, 2017, 95, .	1.1	41
180	In situ measurements of thickness changes and mechanical stress upon gasochromic switching of thin MoOx films. Journal of Applied Physics, 2004, 95, 7632-7636.	1.1	40

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