Lars P H Jeurgens

List of Publications by Year
in descending order

128 papers	4,097 citations	126907 33 h-index	144013 57 g-index
131 all docs	131 docs citations	131 times ranked	3361 citing authors

#	Article	IF	Citations
1	Mixed anodic oxides for forming-free memristors revealed by combinatorial screening of hafnium-tantalum system. Applied Materials Today, 2022, 26, 101270.	4.3	9
2	Impact of Electrolyte Incorporation in Anodized Niobium on Its Resistive Switching. Nanomaterials, 2022, 12, 813.	4.1	8
3	Fast and Reliable Agâ€“Sn Transient Liquid Phase Bonding by Combining Rapid Heating with Low-Power Ultrasound. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2022, 53, 2195-2207.	2.2	5
4	Reduction of thermally grown single-phase CuO and Cu2O thin films by in-situ time-resolved XRD. Applied Surface Science, 2022, 588, 152896.	6.1	26
5	Fluorinated ether electrolyte with controlled solvation structure for high voltage lithium metal batteries. Nature Communications, 2022, 13, 2575.	12.8	147
6	Atomistic Assessment of Melting Point Depression and Enhanced Interfacial Diffusion of Cu in Confinement with AlN. ACS Applied Materials & Interfaces, 2022, 14, 26099-26115.	8.0	5
7	Stress tuning in sputter-grown Cu and W films for Cu/W nanomultilayer design. Journal of Applied Physics, 2022, 131, .	2.5	6
8	Strain depth profiles in thin films extracted from in-plane X-ray diffraction. Journal of Applied Crystallography, 2021, 54, 87-98.	4.5	2
9	Hard x-ray photoelectron spectroscopy: a snapshot of the state-of-the-art in 2020. Journal of Physics Condensed Matter, 2021, 33, 233001.	1.8	55
10	Revealing the univariate effect of structural order on the oxidation of ternary alloys: Amorphous vs. crystalline Cuâ€“Zrâ€“Al alloys. Corrosion Science, 2021, 183, 109309.	6.6	6
11	Building a Better Liâ€Garnet Solid Electrolyte/Metallic Li Interface with Antimony. Advanced Energy Materials, 2021, 11, 2102086.	19.5	70
12	Effect of atomic structure on preferential oxidation of alloys: amorphous versus crystalline Cu-Zr. Journal of Materials Science and Technology, 2020, 40, 128-134.	10.7	15
13	A combinatorial guide to phase formation and surface passivation of tungsten titanium oxide prepared by thermal oxidation. Acta Materialia, 2020, 186, 95-104.	7.9	12
14	Effect of structural order on oxidation kinetics and oxide phase evolution of Alâ€“Zr alloys. Corrosion Science, 2020, 165, 108407.	6.6	12
15	Maskless Patterning of Metal Outflow in Alternating Metal/Ceramic Multiple Nanolayers by Femtosecond Laser Irradiation. Journal of Physical Chemistry C, 2020, 124, 1178-1189.	3.1	5
16	Effect of internal stress on short-circuit diffusion in thin films and nanolaminates: Application to Cu/W nano-multilayers. Applied Surface Science, 2020, 508, 145254.	6.1	24
17	Anomalous texture development induced by grain yielding anisotropy in Ni and Ni-Mo alloys. Acta Materialia, 2020, 200, 857-868.	7.9	25
18	Electrophoretic Deposition of Nanoporous Oxide Coatings from Concentrated CuO Nanoparticle Dispersions. Langmuir, 2020, 36, 8075-8085.	3.5	11

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19	Interface and layer periodicity effects on the thermal conductivity of copper-based nanomultilayers with tungsten, tantalum, and tantalum nitride diffusion barriers. Journal of Applied Physics, 2020, 128, .	2.5	11
20	On the competition between synchronous oxidation and preferential oxidation in Cu-Zr-Al metallic glasses. Corrosion Science, 2020, 177, 108996.	6.6	12
21	In Vivo Shaping of Inorganic Functional Devices using Microalgae. Advanced Biology, 2020, 4, e1900301.	3.0	3
22	In situ oxidation studies of Cu thin films: Growth kinetics and oxide phase evolution. Journal of Applied Physics, 2020, 127, .	2.5	35
23	Concepts for chemical state analysis at constant probing depth by labâ€based XPS/HAXPES combining soft and hard Xâ€ray sources. Surface and Interface Analysis, 2020, 52, 802-810.	1.8	28
24	Effect of the individual layer thickness on the transformation of Cu/W nano-multilayers into nanocomposites. Materialia, 2019, 7, 100400.	2.7	23
25	Cost-effective sol-gel synthesis of porous CuO nanoparticle aggregates with tunable specific surface area. Scientific Reports, 2019, 9, 11758.	3.3	76
26	Local Deformation-Controlled Fast Directional Metal Outflow in Metal/Ceramic Nanolayer Sandwiches upon Low Temperature Annealing. ACS Applied Materials & Interfaces, 2019, 11, 39046-39053.	8.0	6
27	Joining with Reactive Nano-Multilayers: Influence of Thermal Properties of Components on Joint Microstructure and Mechanical Performance. Applied Sciences (Switzerland), 2019, 9, 262.	2.5	13
28	Tailoring Fast Directional Mass Transport of Nano-Confined Agâ€“Cu Alloys upon Heating: Effect of the AlN Barrier Thickness. ACS Applied Materials & Interfaces, 2019, 11, 6605-6614.	8.0	9
29	Study of the hydrogen uptake in deformed steel using the microcapillary cell technique. Corrosion Science, 2019, 155, 55-66.	6.6	16
30	Anodizing of Self-Passivating W_xTi_{1â€“x} Precursors for W_xTi_{1â€“x}O_n Oxide Alloys with Tailored Stability. ACS Applied Materials & Interfaces, 2019, 11, 9510-9518.	8.0	8
31	The Effect of Interfacial Ge and RF-Bias on the Microstructure and Stress Evolution upon Annealing of Ag/AlN Multilayers. Applied Sciences (Switzerland), 2018, 8, 2403.	2.5	10
32	Modeling of Interface and Internal Disorder Applied to XRD Analysis of Ag-Based Nano-Multilayers. ACS Applied Materials & Interfaces, 2018, 10, 20938-20949.	8.0	13
33	Substrate Purity Effect on the Defect Formation and Properties of Amorphous Anodic Barrier Al₂O₃. Journal of the Electrochemical Society, 2018, 165, C422-C431.	2.9	7
34	Reactive Joining of Thermally and Mechanically Sensitive Materials. Journal of Electronic Packaging, Transactions of the ASME, 2018, 140, .	1.8	6
35	Thermal stability of Al-Si12at.% nano-alloys confined between AlN layers in a nanomultilayer configuration. Scripta Materialia, 2017, 130, 210-213.	5.2	10
36	Heterogeneous growth of single crystals on polycrystals. Physical Review B, 2017, 95, .	3.2	1

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37	Electronic and structural characterization of barrier-type amorphous aluminium oxide. Electrochimica Acta, 2017, 224, 503-516.	5.2	24
38	Ionic liquid assisted fabrication of high performance SWNTs reinforced ceramic matrix nano-composites. Ceramics International, 2017, 43, 2297-2304.	4.8	15
39	Acceleration measurements during reactive bonding processes. , 2017, , .		1
40	The effect of thermal treatment on the stress state and evolving microstructure of Cu/W nano-multilayers. Journal of Applied Physics, 2016, 120, .	2.5	29
41	The effect of pre-oxidation treatment on the corrosion behavior of amorphous Al 1â^'x Zr x solid-solution alloys. Electrochimica Acta, 2016, 188, 31-39.	5.2	11
42	Massive Ag migration through metal/ceramic nano-multilayers: an interplay between temperature, stress-relaxation and oxygen-enhanced mass transport. Journal of Materials Chemistry C, 2016, 4, 4927-4938.	5.5	28
43	Melting Point Depression and Fast Diffusion in Nanostructured Brazing Fillers Confined Between Barrier Nanolayers. Journal of Materials Engineering and Performance, 2016, 25, 3275-3284.	2.5	31
44	Thermal stability of Cu/W nano-multilayers. Acta Materialia, 2016, 107, 345-353.	7.9	70
45	Oxidation kinetics of amorphous Al Zr1â^' alloys. Acta Materialia, 2016, 103, 311-321.	7.9	40
46	Nano-Structured Cu/W Brazing Fillers for Advanced Joining Applications. Journal of Materials Science and Engineering B, 2016, 6, .	0.3	6
47	Observation and Origin of Extraordinary Atomic Mobility at Metal-Semiconductor Interfaces at Low Temperatures. Physical Review Letters, 2015, 115, 016102.	7.8	28
48	Copper-Based Nanostructured Coatings for Low-Temperature Brazing Applications. Materials Transactions, 2015, 56, 1015-1018.	1.2	18
49	Kinetics and magnitude of the reversible stress evolution during polycrystalline film growth interruptions. Journal of Applied Physics, 2015, 118, .	2.5	26
50	Thermodynamics controls amorphous oxide formation: Exclusive formation of a stoichiometric amorphous (Al0.33Zr0.67)O1.83 phase upon thermal oxidation of Alâ€“Zr. Acta Materialia, 2015, 94, 134-142.	7.9	23
51	Thermal oxidation of amorphous Al0.44Zr0.56 alloys. Acta Materialia, 2015, 87, 187-200.	7.9	38
52	Atomic structure, electronic structure and thermal stability of amorphous Al x Zr 1â^'x (0.26 â‰¤ x â‰¤) Tj ETQq0 0 0 rgBT /Overlock 10	3.1	14
53	Structural evolution of Agâ€“Cu nano-alloys confined between AlN nano-layers upon fast heating. Physical Chemistry Chemical Physics, 2015, 17, 28228-28238.	2.8	25
54	Generation of luminescence in biomineralized zirconia by zirconia-binding peptides. CrystEngComm, 2015, 17, 1783-1790.	2.6	5

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55	Intrinsic stress evolution during amorphous oxide film growth on Al surfaces. Applied Physics Letters, 2014, 104, 091901.	3.3	24
56	Evolution of surface stress during oxygen exposure of clean Si(111), Si(100), and amorphous Si surfaces. Journal of Applied Physics, 2014, 115, .	2.5	7
57	Theoretical Analysis of Melting Point Depression of Pure Metals in Different Initial Configurations. Journal of Materials Engineering and Performance, 2014, 23, 1600-1607.	2.5	34
58	Interfacial Design for Joining Technologies: An Historical Perspective. Journal of Materials Engineering and Performance, 2014, 23, 1608-1613.	2.5	31
59	The influence of ZnO-binding 12-mer peptides on bio-inspired ZnO formation. CrystEngComm, 2014, 16, 5301.	2.6	15
60	Hard X-ray Photoelectron Spectroscopy (HAXPES) characterisation of electrochemical passivation oxide layers on Alâ€“Crâ€“Fe complex metallic alloys (CMAs). Electrochemistry Communications, 2014, 46, 13-17.	4.7	16
61	Unexpected room-temperature ferromagnetism in bulk ZnO. Applied Physics Letters, 2013, 103, .	3.3	25
62	In situ coherent X-ray diffraction of isolated coreâ€“shell nanowires. Thin Solid Films, 2013, 530, 113-119.	1.8	9
63	Phase constitution and interface structure of nano-sized Ag-Cu/AlN multilayers: Experiment and ab initio modeling. Applied Physics Letters, 2012, 101, .	3.3	16
64	Effect of adatom surface diffusivity on microstructure and intrinsic stress evolutions during Ag film growth. Journal of Applied Physics, 2012, 112, .	2.5	61
65	An STM study of the initial oxidation of single-crystalline zirconium surfaces. Surface Science, 2012, 606, 846-851.	1.9	7
66	Quantum Confinement Drives Macroscopic Stress Oscillations at the Initial Stage of Thin Film Growth. Physical Review Letters, 2012, 109, 045501.	7.8	18
67	Real-Time Visualization of Convective Transportation of Solid Materials at Nanoscale. Nano Letters, 2012, 12, 6126-6132.	9.1	63
68	Synthesis of V-doped TiO2 films by chemical bath deposition and the effect of post-annealing on their properties. Thin Solid Films, 2012, 520, 5928-5935.	1.8	14
69	Biomimetic formation of Titania Thin Films: Effect of Amino Acids on the Deposition Process. ACS Applied Materials & Interfaces, 2011, 3, 1624-1632.	8.0	12
70	The different initial oxidation kinetics of Zr(0001) and Zr(101â^'0) surfaces. Journal of Applied Physics, 2011, 110, .	2.5	19
71	Valence-Band and Chemical-State Analyses of Zr and O in Thermally Grown Thin Zirconium-Oxide Films: An XPS Study. Journal of Physical Chemistry C, 2011, 115, 19841-19848.	3.1	26
72	Atomic transport mechanisms in thin oxide films grown on zirconium by thermal oxidation, as-derived from 18O-tracer experiments. Acta Materialia, 2011, 59, 7498-7507.	7.9	32

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73	Thermal stability of Al/nanocrystalline-Si bilayers investigated by in situ heating energy-filtered transmission electron microscopy. Journal of Materials Science, 2011, 46, 4314-4317.	3.7	5
74	Metalâ€Catalyzed Growth of Semiconductor Nanostructures Without Solubility and Diffusivity Constraints. Advanced Materials, 2011, 23, 854-859.	21.0	36
75	Interface thermodynamics of ultra-thin, amorphous oxide overgrowths on AlMg alloys. Acta Materialia, 2010, 58, 1770-1781.	7.9	20
76	Effect of in vacuo surface pre-treatment on the growth kinetics and chemical constitution of ultra-thin oxide films on Alâ€“Mg alloy substrates. Surface Science, 2010, 604, 588-595.	1.9	16
77	Oxideâ€film growth kinetics on Zr(0001) and Zr(1010) singleâ€crystal surfaces. Surface and Interface Analysis, 2010, 42, 588-591.	1.8	13
78	The amorphous to crystalline transition of ultrathin (Al,Mg)-oxide films grown by thermal oxidation of AlMg alloys: A high-resolution transmission electron microscopy investigation. Journal of Materials Research, 2010, 25, 871-879.	2.6	13
79	Bioinspired Deposition of TiO2 Thin Films Induced by Hydrophobins. Langmuir, 2010, 26, 6494-6502.	3.5	30
80	Growth kinetics and mechanism of the initial oxidation of Al-based Alâ€“Mg alloys. Corrosion Science, 2010, 52, 2556-2564.	6.6	23
81	The initial oxidation of Alâ€“Mg alloys: Depth-resolved quantitative analysis by angle-resolved x-ray photoelectron spectroscopy and real-time in situ ellipsometry. Journal of Applied Physics, 2009, 106, .	2.5	24
82	Fundamentals of Metalâ€induced Crystallization of Amorphous Semiconductors. Advanced Engineering Materials, 2009, 11, 131-135.	3.5	61
83	Carbon incorporation and deactivation of MgO(0 0 1) supported Pd nanoparticles during CO oxidation. Catalysis Today, 2009, 145, 243-250.	4.4	18
84	High-resolution transmission-electron-microscopy study of ultrathin Al-induced crystallization of amorphous Si. Journal of Materials Research, 2009, 24, 3294-3299.	2.6	7
85	Thermodynamics of reactions and phase transformations at interfaces and surfaces. International Journal of Materials Research, 2009, 100, 1281-1307.	0.3	102
86	Mechanisms of Aluminium-Induced Crystallization and Layer Exchange Upon Low-Temperature Annealing of Amorphous Si/Polycrystalline Al Bilayers. Journal of Nanoscience and Nanotechnology, 2009, 9, 3364-3371.	0.9	5
87	Oxidation Behavior of Feâ€“25Crâ€“20Niâ€“2.8Si During Isothermal Oxidation at 1,286ÂK; Life-time Prediction. Oxidation of Metals, 2008, 69, 265-285.	2.1	39
88	Investigation of metalâ€induced crystallization in amorphous Ge/crystalline Al bilayers by Auger microanalysis and selectedâ€area depth profiling. Surface and Interface Analysis, 2008, 40, 427-432.	1.8	11
89	On the development of longâ€range order in ultraâ€thin amorphous Al₂O₃ films upon their transformation into crystalline Î³â€Al₂O₃. Surface and Interface Analysis, 2008, 40, 259-263.	1.8	15
90	The role of the initial oxideâ€film microstructure on the passivation behavior of Al metal surfaces. Surface and Interface Analysis, 2008, 40, 281-284.	1.8	11

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91	Aqueous Deposition of Ultraviolet Luminescent Columnar Tinâ€Doped Indium Hydroxide Films. Advanced Functional Materials, 2008, 18, 2572-2583.	14.9	9
92	The thermodynamic stability of amorphous oxide overgrowths on metals. Acta Materialia, 2008, 56, 659-674.	7.9	78
93	The effect of substrate orientation on the kinetics of ultra-thin oxide-film growth on Al single crystals. Acta Materialia, 2008, 56, 2897-2907.	7.9	56
94	Initial oxide-film growth on Mg-based MgAl alloys at room temperature. Acta Materialia, 2008, 56, 4621-4634.	7.9	54
95	Origins of stress development during metal-induced crystallization and layer exchange: Annealing amorphous Ge/crystalline Al bilayers. Acta Materialia, 2008, 56, 5047-5057.	7.9	75
96	Thermodynamic modeling of the initial microstructural evolution of oxide films grown on bare copper. Thin Solid Films, 2008, 516, 1457-1460.	1.8	7
97	Amorphous versus crystalline state for ultrathin Al2O3 overgrowths on Al substrates. Journal of Applied Physics, 2008, 103, .	2.5	69
98	Tailoring the Ultrathin Al-Induced Crystallization Temperature of Amorphous Si by Application of Interface Thermodynamics. Physical Review Letters, 2008, 100, 125503.	7.8	43
99	Thermodynamics and mechanism of metal-induced crystallization in immiscible alloy systems: Experiments and calculations on Al/a-Ge and Al/a-Si bilayers. Physical Review B, 2008, 77, .	3.2	96
100	Laminates of zinc oxide and poly(amino acid) layers with enhanced mechanical performance. Nanotechnology, 2007, 18, 345707.	2.6	22
101	Nacre-like TiO2 - and ZnO- Based Organic / Inorganic Hybrid Systems. Materials Research Society Symposia Proceedings, 2007, 1007, 1.	0.1	1
102	The origin of high-mismatch orientation relationships for ultra-thin oxide overgrowths. Acta Materialia, 2007, 55, 6027-6037.	7.9	42
103	Nanomechanical Properties of Bioinspired Organicâ€“Inorganic Composite Films. Advanced Materials, 2007, 19, 970-974.	21.0	55
104	Thermodynamic model of oxide overgrowth on bare metals: Relaxation of growth strain by plastic deformation. Physical Review B, 2006, 74, .	3.2	42
105	Modeling compositional changes in binary solid solutions under ion bombardment: Application to theAr+bombardment of MgAl alloys. Physical Review B, 2006, 73, .	3.2	16
106	Relation between Particle Growth in Solution and Composition of Mixed Titania/Vanadium Oxide Films:Â Implications for Chemical Bath Deposition. Chemistry of Materials, 2006, 18, 4465-4472.	6.7	12
107	Mineralization from Aqueous Solutions of Zinc Salts Directed by Amino Acids and Peptides. Chemistry of Materials, 2006, 18, 179-186.	6.7	87
108	The initial oxidation of zirconiumâ€”oxide-film microstructure and growth mechanism. Surface and Interface Analysis, 2006, 38, 727-730.	1.8	18

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109	Quantitative analysis of multi-element oxide thin films by angle-resolved XPS: Application to ultra-thin oxide films on MgAl substrates. Applied Surface Science, 2006, 253, 627-638.	6.1	20
110	Influence of polyvinyl pyrrolidone on the formation and properties of ZnO thin films in chemical bath deposition. Materials Science and Engineering C, 2006, 26, 41-45.	7.3	25
111	Real-time, in situ spectroscopic ellipsometry for analysis of the kinetics of ultrathin oxide-film growth on MgAl alloys. Journal of Applied Physics, 2006, 100, 044903.	2.5	12
112	Relation between particle growth kinetics in solution and surface morphology of thin films: implications on the deposition of titania on polyethylene terephthalate. Thin Solid Films, 2005, 478, 164-169.	1.8	16
113	Promoting exclusive Î±-Al2O3 growth upon high-temperature oxidation of NiCrAl alloys: experiment versus model predictions. Acta Materialia, 2005, 53, 1643-1653.	7.9	105
114	Effect of temperature on the initial, thermal oxidation of zirconium. Acta Materialia, 2005, 53, 2925-2935.	7.9	61
115	The mechanism of low-temperature oxidation of zirconium. Acta Materialia, 2005, 53, 4871-4879.	7.9	31
116	Deposition of Composite Titania/Vanadia Thin Films by Chemical Bath Deposition.. ChemInform, 2005, 36, no.	0.0	0
117	Structural ordering of ultra-thin, amorphous aluminium-oxide films. Surface Science, 2005, 589, 98-105.	1.9	69
118	On the Microstructure of the Initial Oxide Grown by Controlled Annealing and Oxidation on a NiCoCrAlY Bond Coating. Oxidation of Metals, 2005, 64, 355-377.	2.1	70
119	Strategy for Applying Microanalytical Techniques. Mikrochimica Acta, 2004, 145, 215-221.	5.0	4
120	Ellipsometric and XPS study of the initial oxidation of zirconium at room temperature. Surface and Interface Analysis, 2004, 36, 989-992.	1.8	16
121	Quantitative analysis of angle-resolved XPS spectra recorded in parallel data acquisition mode. Surface and Interface Analysis, 2004, 36, 1629-1636.	1.8	33
122	Deposition of Composite Titania/Vanadia Thin Films by Chemical Bath Deposition. Chemistry of Materials, 2004, 16, 4199-4201.	6.7	27
123	The initial, thermal oxidation of zirconium at room temperature. Journal of Applied Physics, 2004, 96, 7126-7135.	2.5	44
124	Modelling the thermal oxidation of ternary alloysâ€"compositional changes in the alloy and the development of oxide phases. Acta Materialia, 2003, 51, 5295-5307.	7.9	94
125	Structure of thin aluminium-oxide films determined from valence band spectra measured using XPS. Surface Science, 2002, 496, 97-109.	1.9	92
126	Growth kinetics and mechanisms of aluminum-oxide films formed by thermal oxidation of aluminum. Journal of Applied Physics, 2002, 92, 1649-1656.	2.5	306

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127	Thermodynamic stability of amorphous oxide films on metals: Application to aluminum oxide films on aluminum substrates. Physical Review B, 2000, 62, 4707-4719.	3.2	248
128	Validation of an Embedded-Atom Copper Classical Potential via Bulk and Nanostructure Simulations. , 0, 12, 74-92.		0