

Arthur P Baddorf

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/968183/publications.pdf>

Version: 2024-02-01

111
papers

7,457
citations

53794

45
h-index

53230

85
g-index

115
all docs

115
docs citations

115
times ranked

8513
citing authors

#	ARTICLE	IF	CITATIONS
1	Exotic Long-Range Surface Reconstruction on $\text{La}_{0.7}\text{Sr}_{0.3}\text{MnO}_3$ Thin Films. ACS Applied Materials & Interfaces, 2021, 13, 9166-9173.	8.0	6
2	Tracking ion intercalation into layered Ti_3C_2 MXene films across length scales. Energy and Environmental Science, 2020, 13, 2549-2558.	30.8	100
3	Work function measurements of clean and modified carbon nanospikes. Carbon, 2020, 168, 302-307.	10.3	7
4	Versailles Project on Advanced Materials and Standards interlaboratory study on intensity calibration for x-ray photoelectron spectroscopy instruments using low-density polyethylene. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2020, 38, 063208.	2.1	21
5	Learning from Imperfections: Predicting Structure and Thermodynamics from Atomic Imaging of Fluctuations. ACS Nano, 2019, 13, 718-727.	14.6	24
6	A physical catalyst for the electrolysis of nitrogen to ammonia. Science Advances, 2018, 4, e1700336.	10.3	264
7	Evolutionary selection growth of two-dimensional materials on polycrystalline substrates. Nature Materials, 2018, 17, 318-322.	27.5	204
8	Theory-assisted determination of nano-rippling and impurities in atomic resolution images of angle-mismatched bilayer graphene. 2D Materials, 2018, 5, 041008.	4.4	5
9	Oxidization stability of atomically precise graphene nanoribbons. Physical Review Materials, 2018, 2, .	2.4	25
10	Surface reconstructions and modified surface states in $\text{L}_x\text{Mn}_y\text{C}_z$	2.4	7
11	Detection of the Spin-Chemical Potential in Topological Insulators Using Spin-Polarized Four-Probe STM. Physical Review Letters, 2017, 119, 137202.	7.8	34
12	Quantification of surface displacements and electromechanical phenomena via dynamic atomic force microscopy. Nanotechnology, 2016, 27, 425707.	2.6	92
13	Atomic-scale observation of structural and electronic orders in the layered compound $\text{H}_{\pm}\text{-RuCl}_3$. Nature Communications, 2016, 7, 13774.	12.8	66
14	Decoupling indirect topographic cross-talk in band excitation piezoresponse force microscopy imaging and spectroscopy. Applied Physics Letters, 2016, 108, .	3.3	17
15	Supramolecular polymerization of a prebiotic nucleoside provides insights into the creation of sequence-controlled polymers. Scientific Reports, 2016, 6, 18891.	3.3	5
16	Interplay between intercalated oxygen superstructures and monolayer h-BN on $\text{Cu}(100)$. Physical Review B, 2016, 94, .	3.2	16
17	Atomic intercalation to measure adhesion of graphene on graphite. Nature Communications, 2016, 7, 13263.	12.8	35
18	Growth Mode Transition in Complex Oxide Heteroepitaxy: Atomically Resolved Studies. Crystal Growth and Design, 2016, 16, 2708-2716.	3.0	13

#	ARTICLE	IF	CITATIONS
19	Formation, Migration, and Reactivity of Au ⁺ CO Complexes on Gold Surfaces. <i>Journal of the American Chemical Society</i> , 2016, 138, 1518-1526.	13.7	74
20	Novel Iron-based ternary amorphous oxide semiconductor with very high transparency, electronic conductivity and mobility. <i>Scientific Reports</i> , 2015, 5, 18157.	3.3	9
21	Atomic-scale electrochemistry on the surface of a manganite by scanning tunneling microscopy. <i>Applied Physics Letters</i> , 2015, 106, .	3.3	17
22	The Ehrlich-Schwoebel barrier on an oxide surface: a combined Monte-Carlo and <i>in situ</i> scanning tunneling microscopy approach. <i>Nanotechnology</i> , 2015, 26, 455705.	2.6	8
23	Surface Control of Epitaxial Manganite Films <i>via</i> Oxygen Pressure. <i>ACS Nano</i> , 2015, 9, 4316-4327.	14.6	27
24	Dimensionality Controlled Octahedral Symmetry-Mismatch and Functionalities in Epitaxial LaCoO ₃ /SrTiO ₃ Heterostructures. <i>Nano Letters</i> , 2015, 15, 4677-4684.	9.1	71
25	Big data in reciprocal space: Sliding fast Fourier transforms for determining periodicity. <i>Applied Physics Letters</i> , 2015, 106, .	3.3	35
26	Effect of Doping on Surface Reactivity and Conduction Mechanism in Samarium-Doped Ceria Thin Films. <i>ACS Nano</i> , 2014, 8, 12494-12501.	14.6	34
27	Chemically induced Jahn-Teller ordering on manganite surfaces. <i>Nature Communications</i> , 2014, 5, 4528.	12.8	28
28	Effect of silver doping on the surface of La _{5/8} Ca _{3/8} MnO ₃ epitaxial films. <i>Applied Physics Letters</i> , 2014, 105, .	3.3	6
29	Electronic Properties of Isosymmetric Phase Boundaries in Highly Strained Ca-Doped BiFeO ₃ . <i>Advanced Materials</i> , 2014, 26, 4376-4380.	21.0	66
30	Water-mediated electrochemical nano-writing on thin ceria films. <i>Nanotechnology</i> , 2014, 25, 075701.	2.6	12
31	Spatially resolved one-dimensional boundary states in graphene-hexagonal boron nitride planar heterostructures. <i>Nature Communications</i> , 2014, 5, 5403.	12.8	71
32	Big-Data Reflection High Energy Electron Diffraction Analysis for Understanding Epitaxial Film Growth Processes. <i>ACS Nano</i> , 2014, 8, 10899-10908.	14.6	34
33	Band Excitation in Scanning Probe Microscopy: Recognition and Functional Imaging. <i>Annual Review of Physical Chemistry</i> , 2014, 65, 519-536.	10.8	97
34	Deep Data Analysis of Conductive Phenomena on Complex Oxide Interfaces: Physics from Data Mining. <i>ACS Nano</i> , 2014, 8, 6449-6457.	14.6	73
35	Toward Quantitative Electrochemical Measurements on the Nanoscale by Scanning Probe Microscopy: Environmental and Current Spreading Effects. <i>ACS Nano</i> , 2013, 7, 8175-8182.	14.6	19
36	Oxygen Control of Atomic Structure and Physical Properties of SrRuO ₃ Surfaces. <i>ACS Nano</i> , 2013, 7, 4403-4413.	14.6	19

#	ARTICLE	IF	CITATIONS
37	Domain Wall Conduction and Polarization-Mediated Transport in Ferroelectrics. <i>Advanced Functional Materials</i> , 2013, 23, 2592-2616.	14.9	113
38	Local crystallography analysis for atomically resolved scanning tunneling microscopy images. <i>Nanotechnology</i> , 2013, 24, 415707.	2.6	18
39	In Situ Observations and Tuning of Physical and Chemical Phenomena on the Surfaces of Strongly Correlated Oxides. <i>Advanced Functional Materials</i> , 2013, 23, 2477-2489.	14.9	10
40	Electron Transport at the Nanometer-Scale Spatially Revealed by Four-Probe Scanning Tunneling Microscopy. <i>Advanced Functional Materials</i> , 2013, 23, 2509-2524.	14.9	50
41	Ferroelectric domain scaling and switching in ultrathin BiFeO ₃ films deposited on vicinal substrates. <i>New Journal of Physics</i> , 2012, 14, 053040.	2.9	21
42	Piezoelectric force microscopy of crystalline oxide-semiconductor heterostructures. <i>Applied Physics Letters</i> , 2012, 101, 102902.	3.3	2
43	Correlating Electronic Transport to Atomic Structures in Self-Assembled Quantum Wires. <i>Nano Letters</i> , 2012, 12, 938-942.	9.1	28
44	Electronic Control over Attachment and Self-Assembly of Alkyne Groups on Gold. <i>ACS Nano</i> , 2012, 6, 9267-9275.	14.6	25
45	Tunable Metallic Conductance in Ferroelectric Nanodomains. <i>Nano Letters</i> , 2012, 12, 209-213.	9.1	153
46	Ultrathin limit and dead-layer effects in local polarization switching of BiFeO ₃ . <i>Physical Review B</i> , 2012, 85, .	3.2	71
47	Scaling and disorder analysis of local V-curves from ferroelectric thin films of lead zirconate titanate. <i>Nanotechnology</i> , 2011, 22, 254031.	2.6	24
48	Dynamic Conductivity of Ferroelectric Domain Walls in BiFeO ₃ . <i>Nano Letters</i> , 2011, 11, 1906-1912.	9.1	223
49	The Role of Electrochemical Phenomena in Scanning Probe Microscopy of Ferroelectric Thin Films. <i>ACS Nano</i> , 2011, 5, 5683-5691.	14.6	109
50	Probing Local and Global Ferroelectric Phase Stability and Polarization Switching in Ordered Macroporous PZT. <i>Advanced Functional Materials</i> , 2011, 21, 941-947.	14.9	23
51	Reduced Coercive Field in BiFeO ₃ Thin Films Through Domain Engineering. <i>Advanced Materials</i> , 2011, 23, 669-672.	21.0	82
52	Defect-Mediated Polarization Switching in Ferroelectrics and Related Materials: From Mesoscopic Mechanisms to Atomistic Control. <i>Advanced Materials</i> , 2010, 22, 314-322.	21.0	62
53	Domain Wall Conductivity in La-Doped BiFeO ₃ . <i>Physical Review Letters</i> , 2010, 105, 197603.	7.8	357
54	Nanoscale Switching Characteristics of Nearly Tetragonal BiFeO ₃ Thin Films. <i>Nano Letters</i> , 2010, 10, 2555-2561.	9.1	149

#	ARTICLE	IF	CITATIONS
55	Oxygen-Induced Surface Reconstruction of SrRuO ₃ and Its Effect on the BaTiO ₃ Interface. ACS Nano, 2010, 4, 4190-4196.	14.6	44
56	Intrinsic Nucleation Mechanism and Disorder Effects in Polarization Switching on Ferroelectric Surfaces. Physical Review Letters, 2009, 102, 017601.	7.8	49
57	Unraveling Deterministic Mesoscopic Polarization Switching Mechanisms: Spatially Resolved Studies of a Tilt Grain Boundary in Bismuth Ferrite. Advanced Functional Materials, 2009, 19, 2053-2063.	14.9	65
58	Defect-induced asymmetry of local hysteresis loops on BiFeO ₃ surfaces. Journal of Materials Science, 2009, 44, 5095-5101.	3.7	38
59	Electric modulation of conduction in multiferroic Ca-doped BiFeO ₃ films. Nature Materials, 2009, 8, 485-493.	27.5	481
60	Deterministic control of ferroelastic switching in multiferroic materials. Nature Nanotechnology, 2009, 4, 868-875.	31.5	331
61	Electronic transport through <i>in situ</i> grown ultrathin BaTiO ₃ films. Applied Physics Letters, 2009, 95, 032903.	3.3	7
62	Atomistic Screening Mechanism of Ferroelectric Surfaces: An In Situ Study of the Polar Phase in Ultrathin BaTiO ₃ Films Exposed to H ₂ O. Nano Letters, 2009, 9, 3720-3725.	9.1	73
63	Detection of percolating paths in polyhedral segregated network composites using electrostatic force microscopy and conductive atomic force microscopy. Applied Physics Letters, 2009, 95, .	3.3	20
64	Polarization Control of Electron Tunneling into Ferroelectric Surfaces. Science, 2009, 324, 1421-1425.	12.6	441
65	Local bias-induced phase transitions. Materials Today, 2008, 11, 16-27.	14.2	49
66	Direct imaging of the spatial and energy distribution of nucleation centres in ferroelectric materials. Nature Materials, 2008, 7, 209-215.	27.5	250
67	Direct measurement of periodic electric forces in liquids. Journal of Applied Physics, 2008, 103, 014306.	2.5	9
68	Growth and Characterization of Rh and Pd Nanoparticles on Oxidized and Reduced CeOx(111) Thin Films by Scanning Tunneling Microscopy. Journal of Physical Chemistry C, 2008, 112, 9336-9345.	3.1	73
69	Doping characterization of InAs ⁺ GaAs quantum dot heterostructure by cross-sectional scanning capacitance microscopy. Applied Physics Letters, 2008, 92, .	3.3	9
70	Polar distortion in ultrathin BaTiO ₃ films studied by <i>in situ</i> LEED I ⁺ V. Physical Review B, 2008, 77, .	3.2	29
71	Piezoelectric response of nanoscale PbTiO ₃ in composite PbTiO ₃ ⁺ CoFe ₂ O ₄ epitaxial films. Applied Physics Letters, 2008, 93, 074101.	3.3	18
72	Recent Advances in Electromechanical Imaging on the Nanometer Scale: Polarization Dynamics in Ferroelectrics, Biopolymers, and Liquid Imaging. Japanese Journal of Applied Physics, 2007, 46, 5674-5685.	1.5	18

#	ARTICLE	IF	CITATIONS
73	Spatially resolved mapping of ferroelectric switching behavior in self-assembled multiferroic nanostructures: strain, size, and interface effects. <i>Nanotechnology</i> , 2007, 18, 405701.	2.6	51
74	Controlling Polarization Dynamics in a Liquid Environment: From Localized to Macroscopic Switching in Ferroelectrics. <i>Physical Review Letters</i> , 2007, 98, 247603.	7.8	46
75	Layer-by-layer and pseudo-two-dimensional growth modes for heteroepitaxial BaTiO ₃ films by exploiting kinetic limitations. <i>Applied Physics Letters</i> , 2007, 91, 202901.	3.3	30
76	Fabrication, dynamics, and electrical properties of insulated scanning probe microscopy probes for electrical and electromechanical imaging in liquids. <i>Applied Physics Letters</i> , 2007, 91, .	3.3	25
77	High frequency piezoresponse force microscopy in the 1-10MHz regime. <i>Applied Physics Letters</i> , 2007, 91, .	3.3	26
78	The band excitation method in scanning probe microscopy for rapid mapping of energy dissipation on the nanoscale. <i>Nanotechnology</i> , 2007, 18, 435503.	2.6	413
79	The reaction of carbon monoxide with palladium supported on cerium oxide thin films. <i>Surface Science</i> , 2007, 601, 3215-3223.	1.9	36
80	Dynamic behaviour in piezoresponse force microscopy. <i>Nanotechnology</i> , 2006, 17, 1615-1628.	2.6	108
81	Switching spectroscopy piezoresponse force microscopy of ferroelectric materials. <i>Applied Physics Letters</i> , 2006, 88, 062908.	3.3	371
82	Electromechanical imaging of biomaterials by scanning probe microscopy. <i>Journal of Structural Biology</i> , 2006, 153, 151-159.	2.8	50
83	Detection of Indentation Induced FE-to-AFE Phase Transformation in Lead Zirconate Titanate. <i>Journal of the American Ceramic Society</i> , 2006, 89, 3557-3559.	3.8	10
84	Bioelectromechanical imaging by scanning probe microscopy: Galvani's experiment at the nanoscale. <i>Ultramicroscopy</i> , 2006, 106, 334-340.	1.9	66
85	High Resolution Electromechanical Imaging of Ferroelectric Materials in a Liquid Environment by Piezoresponse Force Microscopy. <i>Physical Review Letters</i> , 2006, 96, 237602.	7.8	80
86	Adsorption, desorption, and dissociation of benzene on TiO ₂ (110) and Pd ⁺ •TiO ₂ (110): Experimental characterization and first-principles calculations. <i>Physical Review B</i> , 2006, 74, .	3.2	20
87	Spatial resolution, information limit, and contrast transfer in piezoresponse force microscopy. <i>Nanotechnology</i> , 2006, 17, 3400-3411.	2.6	71
88	Vector Piezoresponse Force Microscopy. <i>Microscopy and Microanalysis</i> , 2006, 12, 206-220.	0.4	228
89	Surface stability of epitaxial SrRuO ₃ films. <i>Surface Science</i> , 2005, 581, 118-132.	1.9	58
90	Simultaneous elastic and electromechanical imaging by scanning probe microscopy: Theory and applications to ferroelectric and biological materials. <i>Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena</i> , 2005, 23, 2102.	1.6	35

#	ARTICLE	IF	CITATIONS
91	Observation of ferroelectricity in a confined crystallite using electron-backscattered diffraction and piezoresponse force microscopy. Applied Physics Letters, 2005, 87, 172903.	3.3	12
92	Electronic transport imaging in a multiwire SnO ₂ chemical field-effect transistor device. Journal of Applied Physics, 2005, 98, 044503.	2.5	62
93	Nanoelectromechanics of polarization switching in piezoresponse force microscopy. Journal of Applied Physics, 2005, 97, 074305.	2.5	62
94	Real space imaging of the microscopic origins of the ultrahigh dielectric constant in polycrystalline CaCu ₃ Ti ₄ O ₁₂ . Applied Physics Letters, 2005, 86, 102902.	3.3	64
95	Scanning probe microscopy imaging of frequency dependent electrical transport through carbon nanotube networks in polymers. Nanotechnology, 2004, 15, 907-912.	2.6	23
96	Quantitative Analysis of Electronic Properties of Carbon Nanotubes by Scanning Probe Microscopy: From Atomic to Mesoscopic Length Scales. Physical Review Letters, 2004, 93, 246801.	7.8	22
97	Nonlinear transport imaging by scanning impedance microscopy. Applied Physics Letters, 2004, 85, 4240-4242.	3.3	17
98	Surface stability of epitaxial SrRuO ₃ thin films in vacuum. Journal of Materials Research, 2004, 19, 3447-3450.	2.6	14
99	Surface dynamics of the layered ruthenate Ca _{1.9} Sr _{0.1} RuO ₄ . Physica Status Solidi (B): Basic Research, 2004, 241, 2363-2366.	1.5	5
100	Electronic Stability of Magnetic Fe/Co Superlattices with Monatomic Layer Alternation. Physical Review Letters, 2003, 91, 226106.	7.8	16
101	Nanoscale strain distribution at the Ag/Ru(0001) interface. Physical Review B, 2003, 67, .	3.2	7
102	Thermal expansion at a metal surface: A study of Mg(0001) and Be(101 $\bar{1}$ 0). Physical Review B, 2002, 66, .	3.2	22
103	Relaxation and thermal expansion of Ru() between 300 and 1870 K and the influence of hydrogen. Surface Science, 2002, 498, 74-82.	1.9	14
104	Structure of pseudomorphic and reconstructed thin Cu films on Ru(0001). Physical Review B, 2000, 62, 10436-10444.	3.2	25
105	Structure and growth of strained Cu films on Ru(0001). Surface Science, 2000, 447, L141-L146.	1.9	17
106	Periodic lattice distortion accompanying the charge-density-wave transition for Sn/Ge(111). Physical Review B, 1999, 60, 2860-2863.	3.2	47
107	Hydrogen adsorption on Mo _{1-x} Re _x (110) (x=0-0.25) surfaces. Surface Science, 1998, 410, 237-249.	1.9	5
108	Periodic lattice distortion accompanying the (3 \times 3) charge-density-wave phase of Sn/Ge(111). Physical Review B, 1998, 57, 4579-4583.	3.2	24

#	ARTICLE	IF	CITATIONS
109	Anharmonicity on the Cu(110)-(2 \times 1)O surface. Journal of Electron Spectroscopy and Related Phenomena, 1993, 64-65, 691-696.	1.7	7
110	Enhanced surface anharmonicity observed in vibrations on Cu(110). Physical Review Letters, 1991, 66, 2770-2773.	7.8	82
111	Surface anharmonicity. Journal of Electron Spectroscopy and Related Phenomena, 1990, 54-55, 541-550.	1.7	20