Zhan Zhang

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/6041343/publications.pdf

Version: 2024-02-01

60 papers	3,346 citations	136950 32 h-index	138484 58 g-index
62 all docs	62 docs citations	62 times ranked	4066 citing authors

#	Article	IF	Citations
1	Origin of the Magnetoelectric Coupling Effect in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>Pb</mml:mi><mml:mo stretchy="false">(</mml:mo><mml:msub><mml:mi>Zr</mml:mi><mml:mn>0.2</mml:mn></mml:msub><mml:msub><mml:mi>Ti</mml:mi>	7.8	314
2	Ion Adsorption at the Rutileâ"Water Interface:Â Linking Molecular and Macroscopic Properties. Langmuir, 2004, 20, 4954-4969.	3.5	298
3	How Water Meets a Hydrophobic Surface. Physical Review Letters, 2006, 97, 266101.	7.8	271
4	Simultaneous inner- and outer-sphere arsenate adsorption on corundum and hematite. Geochimica Et Cosmochimica Acta, 2008, 72, 1986-2004.	3.9	220
5	Electric Double Layer at the Rutile (110) Surface. 2. Adsorption of Ions from Molecular Dynamics and X-ray Experiments. Journal of Physical Chemistry B, 2004, 108, 12061-12072.	2.6	127
6	Ultrathin ferroic HfO2â€"ZrO2 superlattice gate stack for advanced transistors. Nature, 2022, 604, 65-71.	27.8	108
7	Optical creation of a supercrystal with three-dimensional nanoscale periodicity. Nature Materials, 2019, 18, 377-383.	27.5	105
8	Bridging arsenate surface complexes on the hematite (012) surface. Geochimica Et Cosmochimica Acta, 2007, 71, 1883-1897.	3.9	103
9	Termination and Water Adsorption at the Î±-Al2O3(012)â"Aqueous Solution Interface. Langmuir, 2006, 22, 4668-4673.	3.5	99
10	Model-independent X-ray imaging of adsorbed cations at the crystalâ€"water interface. Surface Science, 2004, 554, L95-L100.	1.9	92
11	Local negative permittivity and topological phase transition in polar skyrmions. Nature Materials, 2021, 20, 194-201.	27.5	86
12	Structure of the orthoclase (001)- and (010)-water interfaces by high-resolution X-ray reflectivity. Geochimica Et Cosmochimica Acta, 2003, 67, 4267-4275.	3.9	79
13	Structure of rutile TiO2 (110) in water and 1molal Rb+ at pH 12: Inter-relationship among surface charge, interfacial hydration structure, and substrate structural displacements. Surface Science, 2007, 601, 1129-1143.	1.9	78
14	Structure and oxidation state of hematite surfaces reacted with aqueous Fe(II) at acidic and neutral pH. Geochimica Et Cosmochimica Acta, 2010, 74, 1498-1512.	3.9	76
15	Inner-sphere adsorption geometry of Se(IV) at the hematite (100)â€"water interface. Journal of Colloid and Interface Science, 2006, 297, 665-671.	9.4	74
16	X-rayâ€"driven reaction front dynamics at calcite-water interfaces. Science, 2015, 349, 1330-1334.	12.6	69
17	Interface-Induced Polarization and Inhibition of Ferroelectricity in Epitaxial<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>SrTiO</mml:mi><mml:mn>3</mml:mn></mml:msub><mml:mo>/</mml:mo><mml:mi>Si</mml:mi> Physical Review Letters, 2010, 105, 217601.	7.8	65
18	Emergent ferroelectricity in subnanometer binary oxide films on silicon. Science, 2022, 376, 648-652.	12.6	65

#	Article	IF	Citations
19	Electric Double Layer at Metal Oxide Surfaces:Â Static Properties of the Cassiteriteâ^'Water Interface. Langmuir, 2007, 23, 4925-4937.	3.5	63
20	Observation of subnanometre-high surface topography with X-ray reflection phase-contrast microscopy. Nature Physics, 2006, 2, 700-704.	16.7	60
21	Orthoclase dissolution kinetics probed by in situ X-ray reflectivity: effects of temperature, pH, and crystal orientation. Geochimica Et Cosmochimica Acta, 2003, 67, 197-211.	3.9	52
22	Structure of hydrated Zn2+ at the rutile TiO2 (110)-aqueous solution interface: Comparison of X-ray standing wave, X-ray absorption spectroscopy, and density functional theory results. Geochimica Et Cosmochimica Acta, 2006, 70, 4039-4056.	3.9	52
23	Structure and reactivity of the dolomite (104)â€"water interface: New insights into the dolomite problem. Geochimica Et Cosmochimica Acta, 2007, 71, 566-579.	3.9	51
24	On the use of CCD area detectors for high-resolution specular X-ray reflectivity. Journal of Synchrotron Radiation, 2006, 13, 293-303.	2.4	47
25	Comment on â€œStructure and dynamics of liquid water on rutile TiO2(110)â€. Physical Review B, 2012, 85, .	3.2	46
26	Structure of the fluorapatite (100)-water interface by high-resolution X-ray reflectivity. American Mineralogist, 2004, 89, 1647-1654.	1.9	45
27	Atomic Structure of the Epitaxial<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>BaO</mml:mi><mml:mo>/</mml:mo><mml:mi>Si</mml:mi><mml:mo stretchy="false">(</mml:mo><mml:mn>001</mml:mn><mml:mo) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 50 412 Td (stretchy="fa	7.8	45
28	Control of magnetism in Pb(Zr0.2Ti0.8)O3/La0.8Sr0.2MnO3 multiferroic heterostructures (invited). Journal of Applied Physics, 2011, 109, .	2.5	45
29	Full-field X-ray reflection microscopy of epitaxial thin-films. Journal of Synchrotron Radiation, 2014, 21, 1252-1261.	2.4	41
30	Perovskite neural trees. Nature Communications, 2020, 11, 2245.	12.8	38
31	Zn2+ and Sr2+ adsorption at the TiO2 (110)â€"electrolyte interface: Influence of ionic strength, coverage, and anions. Journal of Colloid and Interface Science, 2006, 295, 50-64.	9.4	35
32	Rb⁺ Adsorption at the Quartz(101)â€"Aqueous Interface: Comparison of Resonant Anomalous X-ray Reflectivity with ab Initio Calculations. Journal of Physical Chemistry C, 2015, 119, 4778-4788.	3.1	34
33	Perovskite nickelates as bio-electronic interfaces. Nature Communications, 2019, 10, 1651.	12.8	33
34	Comparison of Cation Adsorption by Isostructural Rutile and Cassiterite. Langmuir, 2011, 27, 4585-4593.	3.5	29
35	In Vivo Glutamate Sensing inside the Mouse Brain with Perovskite Nickelateâ€"Nafion Heterostructures. ACS Applied Materials & Interfaces, 2020, 12, 24564-24574.	8.0	27
36	The atomic structure and polarization of strained SrTiO3/Si. Applied Physics Letters, 2010, 97, 251902.	3.3	25

#	Article	IF	Citations
37	Image contrast in X-ray reflection interface microscopy: comparison of data with model calculations and simulations. Journal of Synchrotron Radiation, 2008, 15, 558-571.	2.4	23
38	Direct Atomic-Scale Observation of Redox-Induced Cation Dynamics in an Oxide-Supported Monolayer Catalyst: WO_x/Î±-Fe₂O₃(0001). Journal of the American Chemical Society, 2009, 131, 18200-18201.	13.7	22
39	Atomic-Scale Study of Ambient-Pressure Redox-Induced Changes for an Oxide-Supported Submonolayer Catalyst: VO_x/Î±-TiO₂(110). Journal of Physical Chemistry Letters, 2012, 3, 2845-2850.	4.6	20
40	Rb⁺ and Sr²⁺ Adsorption at the TiO₂ (110)â˜Electrolyte Interface Observed with Resonant Anomalous X-ray Reflectivity. Langmuir, 2010, 26, 950-958.	3.5	19
41	Probing the domain structure of BiFeO3 epitaxial films with three-dimensional reciprocal space mapping. Applied Physics Letters, 2014, 104, .	3.3	18
42	Engineered Unique Elastic Modes at a<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>BaTiO</mml:mi></mml:mrow><mml:mrow><mml:mn>3</mml:mn><mml:mo stretchy="false">(</mml:mo><mml:mn>2</mml:mn><mml:mo>Ã—</mml:mo><mml:mn>1</mml:mn><mml:mo) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 522 Td (stretchy="false">)</mml:mo><mml:mn>001</mml:mn><mml:mo) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 522 Td (stretchy="false">)</mml:mo>	7.8	18
43	Imaging nanoscale lattice variations by machine learning of x-ray diffraction microscopy data. Nanotechnology, 2016, 27, 374002.	2.6	17
44	Model-independent one-dimensional imaging of interfacial structures at<1Ã…resolution. Physical Review B, 2005, 72, .	3.2	14
45	Probing interfacial reactions with X-ray reflectivity and X-ray reflection interface microscopy: Influence of NaCl on the dissolution of orthoclase at pOH 2 and 85Â°C. Geochimica Et Cosmochimica Acta, 2010, 74, 3396-3411.	3.9	14
46	Dynamic X-ray diffraction imaging of the ferroelectric response in bismuth ferrite. Advanced Structural and Chemical Imaging, 2017, 3, 11.	4.0	13
47	Giant thermally enhanced electrostriction and polar surface phase in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi mathvariant="normal">L</mml:mi><mml:msub><mml:mi mathvariant="normal">a</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:mi mathvariant="normal">M</mml:mi><mml:msub><mml:mi mathvariant="normal"></mml:mi><mml:mn>2</mml:mn></mml:msub><mml:msub><mml:mi mathvarian	2.4	12
48	PoynoretÂal.Reply:. Physical Review Letters, 2008, 101, .	7.8	11
49	Interfacial Bonding and Structure of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>Bi</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:msub><mml:mi>Te</mml:mi><mml:mn Insulator Films on Si(111) Determined by Surface X-Ray Scattering. Physical Review Letters, 2013, 110, 226103.	7.8	11
50	In situ imaging of orthoclaseâ€“aqueous solution interfaces with x-ray reflection interface microscopy. Journal of Applied Physics, 2011, 110, 102211.	2.5	8
51	Interfacial structure of SrZrxTi1â˜xO3 films on Ge. Applied Physics Letters, 2018, 113, 201601.	3.3	5
52	Xâ€ray Standing Wave Imaging. Synchrotron Radiation News, 2004, 17, 5-10.	0.8	4
53	Pressure-dependent phase transformation of solid helium confined within a nanoporous material. Physical Review B, 2013, 88, .	3.2	4
54	Morphology of epitaxial SrTiO3/Si (001) determined using three-dimensional diffraction profile analysis. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2010, 28, C5B1-C5B4.	1.2	3

#	Article	IF	Citations
55	X-ray scattering of calcite thin films deposited by atomic layer deposition: Studies in air and in calcite saturated water solution. Thin Solid Films, 2014, 565, 277-284.	1.8	3
56	Application of X-ray reflection interface microscopy to thin-film materials. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2011, 649, 188-190.	1.6	2
57	Mixture domain states in PbTiO3 film with potentials for functional application. Applied Physics Letters, 2019, 114, .	3.3	2
58	Facility update: Research and Operations at the Advanced Photon Source. Synchrotron Radiation News, 2007, 20, 37-42.	0.8	1
59	Effect of buffer termination on intermixing and conductivity in LaTiO3/SrTiO3 heterostructures integrated on Si(100). Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2022, 40, 013206.	2.1	1
60	Nanoscale antiferromagnetic domain imaging using fullâ€field resonant xâ€ray magnetic diffraction microscopy. Advanced Materials, 2022, , 2200639.	21.0	1