

Lorenz Holzer

List of Publications by Year in descending order

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82
papers

5,829
citations

71102

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75
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82
docs citations

82
times ranked

4966
citing authors

#	ARTICLE	IF	CITATIONS
1	Contradicting Geometrical Concepts in Pore Size Analysis Attained with Electron Microscopy and Mercury Intrusion. <i>Journal of the American Ceramic Society</i> , 2008, 91, 4059-4067.	3.8	338
2	Three-dimensional analysis of porous BaTiO ₃ ceramics using FIB nanotomography. <i>Journal of Microscopy</i> , 2004, 216, 84-95.	1.8	324
3	Adsorption of polyelectrolytes and its influence on the rheology, zeta potential, and microstructure of various cement and hydrate phases. <i>Journal of Colloid and Interface Science</i> , 2008, 323, 301-312.	9.4	314
4	Hydration of alkali-activated slag: comparison with ordinary Portland cement. <i>Advances in Cement Research</i> , 2006, 18, 119-128.	1.6	256
5	Interaction of polycarboxylate-based superplasticizers with cements containing different C3A amounts. <i>Cement and Concrete Composites</i> , 2009, 31, 153-162.	10.7	255
6	Microstructure degradation of cermet anodes for solid oxide fuel cells: Quantification of nickel grain growth in dry and in humid atmospheres. <i>Journal of Power Sources</i> , 2011, 196, 1279-1294.	7.8	255
7	Influence of polymers on microstructure and adhesive strength of cementitious tile adhesive mortars. <i>Cement and Concrete Research</i> , 2005, 35, 35-50.	11.0	196
8	Three-Dimensional Microstructural Characterization Using Focused Ion Beam Tomography. <i>MRS Bulletin</i> , 2007, 32, 408-416.	3.5	190
9	3D geometry and topology of pore pathways in Opalinus clay: Implications for mass transport. <i>Applied Clay Science</i> , 2011, 52, 85-95.	5.2	190
10	Unraveling the record of successive high grade events in the Central Zone of the Limpopo Belt using Pb single phase dating of metamorphic minerals. <i>Precambrian Research</i> , 1998, 87, 87-115.	2.7	171
11	Characterization of multi-scale microstructural features in Opalinus Clay. <i>Microporous and Mesoporous Materials</i> , 2013, 170, 83-94.	4.4	152
12	Quantitative relationships between composition, particle size, triple phase boundary length and surface area in nickel-cermet anodes for Solid Oxide Fuel Cells. <i>Journal of Power Sources</i> , 2011, 196, 7076-7089.	7.8	131
13	The influence of constrictivity on the effective transport properties of porous layers in electrolysis and fuel cells. <i>Journal of Materials Science</i> , 2013, 48, 2934-2952.	3.7	128
14	FIB-Nanotomography of Particulate Systems – Part I: Particle Shape and Topology of Interfaces. <i>Journal of the American Ceramic Society</i> , 2006, 89, 2577-2585.	3.8	125
15	Geochronology of the Hout River Shear Zone and the metamorphism in the Southern Marginal Zone of the Limpopo Belt, Southern Africa. <i>Precambrian Research</i> , 2001, 109, 145-173.	2.7	123
16	The microstructure of dispersed and non-dispersed fresh cement pastes – New insight by cryo-microscopy. <i>Cement and Concrete Research</i> , 2008, 38, 522-529.	11.0	117
17	Influence of compaction on the interfacial transition zone and the permeability of concrete. <i>Cement and Concrete Research</i> , 2006, 36, 1425-1433.	11.0	116
18	Tectonothermal history of the western part of the Limpopo Belt: tectonic models and new perspectives. <i>Journal of African Earth Sciences</i> , 1999, 28, 383-402.	2.0	105

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19	Changes in microstructures and physical properties of polymer-modified mortars during wet storage. <i>Cement and Concrete Research</i> , 2006, 36, 79-90.	11.0	101
20	Discrete metamorphic events in the Limpopo belt, southern Africa: Implications for the application of P-T paths in complex metamorphic terrains. <i>Geology</i> , 1994, 22, 1035.	4.4	93
21	Pore space relevant for gas permeability in Opalinus clay: Statistical analysis of homogeneity, percolation, and representative volume element. <i>Journal of Geophysical Research: Solid Earth</i> , 2013, 118, 2799-2812.	3.4	91
22	Exhumation of Limpopo Central Zone granulites and dextral continent-scale transcurrent movement at 2.0 Ga along the Palala Shear Zone, Northern Province, South Africa. <i>Precambrian Research</i> , 1999, 96, 263-288.	2.7	88
23	Predicting effective conductivities based on geometric microstructure characteristics. <i>AIChE Journal</i> , 2016, 62, 1834-1843.	3.6	87
24	3D-microstructure analysis of hydrated bentonite with cryo-stabilized pore water. <i>Applied Clay Science</i> , 2010, 47, 330-342.	5.2	84
25	Quantitative relationships between microstructure and effective transport properties based on virtual materials testing. <i>AIChE Journal</i> , 2014, 60, 1983-1999.	3.6	82
26	On the application of focused ion beam nanotomography in characterizing the 3D pore space geometry of Opalinus clay. <i>Physics and Chemistry of the Earth</i> , 2011, 36, 1539-1544.	2.9	75
27	Microstructure-property relationships in a gas diffusion layer (GDL) for Polymer Electrolyte Fuel Cells, Part I: effect of compression and anisotropy of dry GDL. <i>Electrochimica Acta</i> , 2017, 227, 419-434.	5.2	74
28	FIB-Nanotomography of Particulate Systems—Part II: Particle Recognition and Effect of Boundary Truncation. <i>Journal of the American Ceramic Society</i> , 2006, 89, 2586-2595.	3.8	73
29	Smart material concept: reversible microstructural self-regeneration for catalytic applications. <i>Journal of Materials Chemistry A</i> , 2016, 4, 11939-11948.	10.3	72
30	Advances in 3D focused ion beam tomography. <i>MRS Bulletin</i> , 2014, 39, 354-360.	3.5	69
31	Swiss tunnel structures: concrete damage by formation of thaumasite. <i>Cement and Concrete Composites</i> , 2003, 25, 1111-1117.	10.7	67
32	Development of improved nickel catalysts for sorption enhanced CO ₂ methanation. <i>International Journal of Hydrogen Energy</i> , 2016, 41, 20185-20191.	7.1	64
33	Redox cycling of Ni—YSZ anodes for solid oxide fuel cells: Influence of tortuosity, constriction and percolation factors on the effective transport properties. <i>Journal of Power Sources</i> , 2013, 242, 179-194.	7.8	59
34	Synthesis and performance of A-site deficient lanthanum-doped strontium titanate by nanoparticle based spray pyrolysis. <i>Journal of Power Sources</i> , 2012, 201, 26-36.	7.8	55
35	Cryo-FIB nanotomography for quantitative analysis of particle structures in cement suspensions. <i>Journal of Microscopy</i> , 2007, 227, 216-228.	1.8	54
36	Three-dimensional pore structure and ion conductivity of porous ceramic diaphragms. <i>AIChE Journal</i> , 2013, 59, 1446-1457.	3.6	52

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37	Structural Reversibility and Nickel Particle stability in Lanthanum Iron Nickel Perovskite-type Catalysts. <i>ChemSusChem</i> , 2017, 10, 2505-2517.	6.8	52
38	A FIB-nanotomography method for accurate 3D reconstruction of open nanoporous structures. <i>Ultramicroscopy</i> , 2016, 163, 38-47.	1.9	50
39	Quantifying the influence of microstructure on effective conductivity and permeability: Virtual materials testing. <i>International Journal of Solids and Structures</i> , 2020, 184, 211-220.	2.7	48
40	Nickel agglomeration in solid oxide fuel cells: The influence of temperature. <i>Solid State Ionics</i> , 2012, 211, 69-73.	2.7	45
41	The behaviour of Nd and Pb isotopes during 2.0 Ga migmatization in paragneisses of the Central Zone of the Limpopo Belt (South Africa and Botswana). <i>Precambrian Research</i> , 2001, 112, 51-86.	2.7	44
42	3D Microstructure Effects in Ni-YSZ Anodes: Prediction of Effective Transport Properties and Optimization of Redox Stability. <i>Materials</i> , 2015, 8, 5554-5585.	2.9	40
43	A computational study of the effect of structural anisotropy of porous asphalt on hydraulic conductivity. <i>Construction and Building Materials</i> , 2012, 36, 66-77.	7.2	39
44	Cr ₂ O ₃ scale growth rates on metallic interconnectors derived from 40,000h solid oxide fuel cell stack operation. <i>Journal of Power Sources</i> , 2013, 243, 508-518.	7.8	38
45	Stochastic 3D modeling of La _{0.6} Sr _{0.4} CoO ₃ cathodes based on structural segmentation of FIB-SEM images. <i>Computational Materials Science</i> , 2013, 67, 48-62.	3.0	38
46	Sulfur Poisoning Recovery on a Solid Oxide Fuel Cell Anode Material through Reversible Segregation of Nickel. <i>Chemistry of Materials</i> , 2019, 31, 748-758.	6.7	36
47	Quantitative microstructure analysis of polymer-modified mortars. <i>Journal of Microscopy</i> , 2003, 212, 186-196.	1.8	33
48	Effect of graphite pore former on oxygen electrodes prepared with La _{0.6} Sr _{0.4} CoO ₃ nanoparticles. <i>Electrochemistry Communications</i> , 2010, 12, 292-295.	4.7	33
49	Stochastic 3D modeling of complex three-phase microstructures in SOFC-electrodes with completely connected phases. <i>Computational Materials Science</i> , 2016, 118, 353-364.	3.0	33
50	Big data for microstructure-property relationships: A case study of predicting effective conductivities. <i>AIChE Journal</i> , 2017, 63, 4224-4232.	3.6	32
51	Image-Based Upscaling of Permeability in Opalinus Clay. <i>Journal of Geophysical Research: Solid Earth</i> , 2018, 123, 285-295.	3.4	32
52	Alkali-aggregate reaction—identifying reactive silicates in complex aggregates by ESEM observation of dissolution features. <i>Cement and Concrete Composites</i> , 2005, 27, 796-801.	10.7	28
53	Limitation in obtainable surface roughness of hardened cement paste: a virtual topographic experiment based on focussed ion beam nanotomography datasets. <i>Journal of Microscopy</i> , 2008, 232, 200-206.	1.8	27
54	Shape Comparison between 0.4-2.0 and 20-60 µm Cement Particles. <i>Journal of the American Ceramic Society</i> , 2010, 93, 1626-1633.	3.8	27

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55	3D Microstructure Effects in Ni-YSZ Anodes: Influence of TPB Lengths on the Electrochemical Performance. <i>Materials</i> , 2015, 8, 7129-7144.	2.9	26
56	Microstructure-property relationships in a gas diffusion layer (GDL) for Polymer Electrolyte Fuel Cells, Part II: pressure-induced water injection and liquid permeability. <i>Electrochimica Acta</i> , 2017, 241, 414-432.	5.2	26
57	Microstructural aspects of Ti6Al4V degradation in H2O2-containing phosphate buffered saline. <i>Corrosion Science</i> , 2021, 190, 109640.	6.6	25
58	The Pore Structure of Compacted and Partly Saturated MX-80 Bentonite at Different Dry Densities. <i>Clays and Clay Minerals</i> , 2014, 62, 174-187.	1.3	24
59	Microstructure and spatial distribution of corrosion products anodically grown on zinc in chloride solutions. <i>Electrochemistry Communications</i> , 2017, 81, 56-60.	4.7	22
60	Toward Reproducible Three-Dimensional Microstructure Analysis of Granular Materials and Complex Suspensions. <i>Microscopy and Microanalysis</i> , 2009, 15, 130-146.	0.4	20
61	Fundamental relationships between 3D pore topology, electrolyte conduction and flow properties: Towards knowledge-based design of ceramic diaphragms for sensor applications. <i>Materials and Design</i> , 2016, 99, 314-327.	7.0	19
62	Lanthanum doped strontium titanate - ceria anodes: deconvolution of impedance spectra and relationship with composition and microstructure. <i>Journal of Power Sources</i> , 2018, 385, 62-75.	7.8	18
63	Transfer of a single particle for combined ESEM and TEM analyses. <i>Atmospheric Environment</i> , 2003, 37, 4353-4359.	4.1	14
64	On the chemical interaction of nanoscale lanthanum doped strontium titanates with common scandium and yttrium stabilized electrolyte materials. <i>International Journal of Hydrogen Energy</i> , 2012, 37, 18326-18341.	7.1	14
65	Model-based prediction of the ohmic resistance of metallic interconnects from oxide scale growth based on scanning electron microscopy. <i>Journal of Power Sources</i> , 2014, 272, 595-605.	7.8	14
66	A model-based approach for current voltage analyses to quantify degradation and fuel distribution in solid oxide fuel cell stacks. <i>Journal of Power Sources</i> , 2015, 288, 409-418.	7.8	12
67	Cathodic Corrosion of Zinc under Potentiostatic Conditions in NaCl Solutions. <i>ChemElectroChem</i> , 2018, 5, 1203-1211.	3.4	10
68	Stochastic 3D Modeling of Three-Phase Microstructures for Predicting Transport Properties: A Case Study. <i>Transport in Porous Media</i> , 2019, 128, 179-200.	2.6	10
69	Influence of strontium-rich pore-filling phase on the performance of La _{0.6} Sr _{0.4} CoO ₃ ^δ thin-film cathodes. <i>Journal of Power Sources</i> , 2015, 274, 295-303.	7.8	9
70	Nanoscale calcium bismuth mixed oxide with enhanced photocatalytic performance under visible light. <i>Applied Catalysis A: General</i> , 2010, 382, 190-196.	4.3	8
71	Intergranular pore space evolution in MX80 bentonite during a long-term experiment. <i>Applied Clay Science</i> , 2015, 104, 150-159.	5.2	8
72	Anodic degradation of Zn-Ni coatings in moderately alkaline NaCl solution. <i>Materials Letters</i> , 2021, 293, 129701.	2.6	8

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73	QUANTIFICATION OF CAPILLARY PORES AND HADLEY GRAINS IN CEMENT PASTE USING FIB-NANOTOMOGRAPHY. , 2006, , 509-516.		8
74	Estimating the effective elasticity properties of a diamond/ $\sqrt{2}$ -SiC composite thin film by 3D reconstruction and numerical homogenization. Diamond and Related Materials, 2019, 97, 107406.	3.9	6
75	Modeling the impedance response and steady state behaviour of porous CGO-based MIEC anodes. Physical Chemistry Chemical Physics, 2021, 23, 23042-23074.	2.8	6
76	In situ nanomanipulators as a tool to separate individual tobermorite crystals for AFM studies. Ultramicroscopy, 2007, 107, 1068-1077.	1.9	5
77	Impedance Spectroscopy Analysis of Structural Defects in Sputtered ZnO Films. ChemElectroChem, 2020, 7, 2055-2064.	3.4	5
78	Ohmic resistance of nickel infiltrated chromium oxide scales in solid oxide fuel cell metallic interconnects. Solid State Ionics, 2015, 283, 38-51.	2.7	4
79	Oxygen Reduction Investigation on Sputtered ZnO Layers with Nano-Granular Structure. ChemElectroChem, 2019, 6, 5321-5330.	3.4	4
80	An Ensemble Monte Carlo Simulation Study of Water Distribution in Porous Gas Diffusion Layers for Proton Exchange Membrane Fuel Cells. Journal of Electrochemical Energy Conversion and Storage, 2018, 15, .	2.1	3
81	Influence of Some Inorganic Impurities on the Electrochemical Properties and Microstructure of Ni-CGO Anode in Artificial Woodgas Atmosphere. ECS Transactions, 2009, 25, 2117-2124.	0.5	0
82	On Microstructure-Property Relationships Derived by Virtual Materials Testing with an Emphasis on Effective Conductivity. Communications in Computer and Information Science, 2018, , 145-158.	0.5	0