Andreas Luttge

List of Publications by Year
in descending order

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Version: 2024-02-01

95 papers	6,956 citations	71061 41 h-index	58549 82 g-index
101 all docs	101 docs citations	101 times ranked	6925 citing authors

#	Article	IF	Citations
1	A Kinetic Monte Carlo Approach to Model Barite Dissolution: The Role of Reactive Site Geometry. Minerals (Basel, Switzerland), 2022, 12, 639.	0.8	3
2	Influence of chemical zoning on sandstone calcite cement dissolution: The case of manganese and iron. Chemical Geology, 2021, 559, 119952.	1.4	7
3	Gypsum Precipitation under Saline Conditions: Thermodynamics, Kinetics, Morphology, and Size Distribution. Minerals (Basel, Switzerland), 2021, 11, 141.	0.8	35
4	Influence of Muscovite (001) Surface Nanotopography on Radionuclide Adsorption Studied by Kinetic Monte Carlo Simulations. Minerals (Basel, Switzerland), 2021, 11, 468.	0.8	4
5	Multiscale investigation of olivine (0 1 0) face dissolution from a surface control perspective. Applied Surface Science, 2021, 549, 149317.	3.1	9
6	Mineral Dissolution Kinetics: Pathways to Equilibrium. ACS Earth and Space Chemistry, 2021, 5, 1657-1673.	1.2	8
7	Influence of Processing Route on the Surface Reactivity of Cu47Ti33Zr11Ni6Sn2Si1 Metallic Glass. Metals, 2021, 11, 1173.	1.0	5
8	A modeling approach for unveiling adsorption of toxic ions on iron oxide nanocrystals. Journal of Hazardous Materials, 2021, 417, 126005.	6.5	7
9	The role of crystal heterogeneity in alkali feldspar dissolution kinetics. Geochimica Et Cosmochimica Acta, 2021, 309, 329-351.	1.6	17
10	Discrimination of Ceramic Surface Finishing by Vertical Scanning Interferometry. Archaeometry, 2019, 61, 31-42.	0.6	6
11	A Statistical Approach for Analysis of Dissolution Rates Including Surface Morphology. Minerals (Basel, Switzerland), 2019, 9, 458.	0.8	23
12	Kinetic concepts for quantitative prediction of fluid-solid interactions. Chemical Geology, 2019, 504, 216-235.	1.4	42
13	Inherited control of crystal surface reactivity. Applied Geochemistry, 2018, 91, 140-148.	1.4	36
14	The evaluation of arsenic contamination potential, speciation and hydrogeochemical behaviour in aquifers of Punjab, Pakistan. Chemosphere, 2018, 199, 737-746.	4.2	119
15	Pulsating dissolution of crystalline matter. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 897-902.	3.3	37
16	Arsenic removal by Japanese oak wood biochar in aqueous solutions and well water: Investigating arsenic fate using integrated spectroscopic and microscopic techniques. Science of the Total Environment, 2018, 621, 1642-1651.	3.9	175
17	Arsenic removal by perilla leaf biochar in aqueous solutions and groundwater: An integrated spectroscopic and microscopic examination. Environmental Pollution, 2018, 232, 31-41.	3.7	297
18	Crystal Dissolution Kinetics Studied by a Combination of Monte Carlo and Voronoi Methods. Minerals (Basel, Switzerland), 2018, 8, 133.	0.8	14

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19	Kinetics of pipeline steel corrosion studied by Raman spectroscopy-coupled vertical scanning interferometry. Npj Materials Degradation, 2018, 2, .	2.6	11
20	Temporal Evolution of Calcite Surface Dissolution Kinetics. Minerals (Basel, Switzerland), 2018, 8, 256.	0.8	31
21	The effect of crystal size variation on the rate of dissolution â€“ A kinetic Monte Carlo study. Geochimica Et Cosmochimica Acta, 2017, 212, 167-175.	1.6	53
22	Variability of Zinc Oxide Dissolution Rates. Environmental Science & Technology, 2017, 51, 4297-4305.	4.6	37
23	Beyond the conventional understanding of waterâ€“rock reactivity. Earth and Planetary Science Letters, 2017, 457, 100-105.	1.8	57
24	Kinetic Monte Carlo Approach To Study Carbonate Dissolution. Journal of Physical Chemistry C, 2016, 120, 6482-6492.	1.5	70
25	Direct Measurement of Surface Dissolution Rates in Potential Nuclear Waste Forms: The Example of Pyrochlore. ACS Applied Materials & Interfaces, 2015, 7, 17857-17865.	4.0	48
26	Calcite Dissolution Kinetics. Aquatic Geochemistry, 2015, 21, 415-422.	1.5	12
27	Variability of crystal surface reactivity: What do we know?. Applied Geochemistry, 2014, 43, 132-157.	1.4	125
28	Lateral Resolution Enhancement of Vertical Scanning Interferometry by Sub-Pixel Sampling. Microscopy and Microanalysis, 2014, 20, 90-98.	0.2	15
29	A Stochastic Treatment of Crystal Dissolution Kinetics. Elements, 2013, 9, 183-188.	0.5	131
30	Fundamental Controls of Dissolution Rate Spectra: Comparisons of Model and Experimental Results. Procedia Earth and Planetary Science, 2013, 7, 537-540.	0.6	16
31	Plasmonic Nature of the Terahertz Conductivity Peak in Single-Wall Carbon Nanotubes. Nano Letters, 2013, 13, 5991-5996.	4.5	143
32	Kinetic Monte Carlo Simulations of Silicate Dissolution: Model Complexity and Parametrization. Journal of Physical Chemistry C, 2013, 117, 24894-24906.	1.5	38
33	A comprehensive stochastic model of phyllosilicate dissolution: Structure and kinematics of etch pits formed on muscovite basal face. Geochimica Et Cosmochimica Acta, 2013, 120, 545-560.	1.6	47
34	Midinfrared third-harmonic generation from macroscopically aligned ultralong single-wall carbon nanotubes. Physical Review B, 2013, 87, .	1.1	6
35	Does the stepwave model predict mica dissolution kinetics?. Geochimica Et Cosmochimica Acta, 2012, 97, 120-130.	1.6	32
36	How predictable are dissolution rates of crystalline material?. Geochimica Et Cosmochimica Acta, 2012, 98, 177-185.	1.6	169

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37	Modeling and simulation of cement hydration kinetics and microstructure development. Cement and Concrete Research, 2011, 41, 1257-1278.	4.6	328
38	Experimental techniques for cement hydration studies. Studia Universitatis Babes-Bolyai, Geologia, 2011, 56, 3-15.	1.0	5
39	Reduction of Graphene Oxide via Bacterial Respiration. ACS Nano, 2010, 4, 4852-4856.	7.3	539
40	Reactions at Surfaces: A New Approach Integrating Interferometry and Kinetic Simulations. Journal of the American Ceramic Society, 2010, 93, 3519-3530.	1.9	43
41	Retention of Latex Colloids on Calcite as a Function of Surface Roughness and Topography. Langmuir, 2010, 26, 4743-4752.	1.6	48
42	Fluorite dissolution at acidic pH: In situ AFM and ex situ VSI experiments and Monte Carlo simulations. Geochimica Et Cosmochimica Acta, 2010, 74, 4298-4311.	1.6	33
43	Mineral dissolution kinetics as a function of distance from equilibrium â€“ New experimental results. Chemical Geology, 2010, 269, 79-88.	1.4	103
44	Simultaneous Interferometric Measurement of Corrosive or Demineralizing Bacteria and Their Mineral Interfaces. Applied and Environmental Microbiology, 2009, 75, 1445-1449.	1.4	8
45	Correlation between sub-micron surface roughness of iron oxide encrustations and trace element concentrations. Science of the Total Environment, 2009, 407, 4703-4710.	3.9	11
46	Theoretical approach to evaluating plagioclase dissolution mechanisms. Geochimica Et Cosmochimica Acta, 2009, 73, 2832-2849.	1.6	54
47	Morphological evolution of dissolving feldspar particles with anisotropic surface kinetics and implications for dissolution rate normalization and grain size dependence: A kinetic modeling study. Geochimica Et Cosmochimica Acta, 2009, 73, 6757-6770.	1.6	34
48	Shape control of new Fe_xOâ€“Fe₃O₄and Fe_{1â€“y}Mn_yOâ€“Fe_{3â€“z}Mn_z nanostructures. Advanced Functional Materials, 2008, 18, 1661-1667.	7.8	47
49	Interferometric observations and kinetic modeling of the chemical cleaning of humic materials deposited on membranes. Journal of Membrane Science, 2008, 313, 127-134.	4.1	13
50	Microorganisms, mineral surfaces, and aquatic environments: Learning from the past for future progress. Geobiology, 2008, 6, 201-213.	1.1	12
51	In search of the microbe/mineral interface: quantitative analysis of bacteria on metal surfaces using vertical scanning interferometry. Geobiology, 2008, 6, 254-262.	1.1	9
52	Relationship between Micrometer to Submicrometer Surface Roughness and Topography Variations of Natural Iron Oxides and Trace Element Concentrations. Langmuir, 2008, 24, 3250-3266.	1.6	16
53	Aluminosilicate Dissolution Kinetics:Â A General Stochastic Model. Journal of Physical Chemistry B, 2008, 112, 1736-1742.	1.2	41
54	Interferometric study of pyrite surface reactivity in acidic conditions. American Mineralogist, 2008, 93, 508-519.	0.9	23

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55	Etch pit formation on iron silicate surfaces during siderophore-promoted dissolution. Chemical Geology, 2007, 240, 326-342.	1.4	98
56	Al,Si order in albite and its effect on albite dissolution processes: A Monte Carlo study. American Mineralogist, 2007, 92, 1316-1324.	0.9	27
57	Calcium Carbonate Formation and Dissolution. Chemical Reviews, 2007, 107, 342-381.	23.0	862
58	Nanoparticle Shape Conservation in the Conversion of MnO Nanocrosses into Mn3O4. Chemistry of Materials, 2007, 19, 1369-1375.	3.2	64
59	Converged surface roughness parameters A new tool to quantify rock surface morphology and reactivity alteration. Numerische Mathematik, 2007, 307, 955-973.	0.7	48
60	Kinetic inhibition of calcite (104) dissolution by aqueous manganese(II). Journal of Crystal Growth, 2007, 307, 116-125.	0.7	44
61	Calcite and dolomite dissolution rates in the context of microbe?mineral surface interactions. Geobiology, 2007, 5, 191-205.	1.1	47
62	Iron Phosphide Nanostructures Produced from a Single-Source Organometallic Precursor:â€‰ Nanorods, Bundles, Crosses, and Spherulites. Nano Letters, 2007, 7, 2920-2925.	4.5	87
63	Manganese(II) Oxide Nanohexapods:â€‰ Insight into Controlling the Form of Nanocrystals. Chemistry of Materials, 2006, 18, 1821-1829.	3.2	88
64	Magnesium inhibition of calcite dissolution kinetics. Geochimica Et Cosmochimica Acta, 2006, 70, 583-594.	1.6	98
65	Albite dissolution kinetics as a function of distance from equilibrium: Implications for natural feldspar weathering. Geochimica Et Cosmochimica Acta, 2006, 70, 1402-1420.	1.6	122
66	Characterization of fibroblast morphology on bioactive surfaces using vertical scanning interferometry. Matrix Biology, 2006, 25, 523-533.	1.5	9
67	Crystal dissolution kinetics and Gibbs free energy. Journal of Electron Spectroscopy and Related Phenomena, 2006, 150, 248-259.	0.8	139
68	A comparison of vertical scanning interferometry (VSI) and atomic force microscopy (AFM) for characterizing membrane surface topography. Journal of Membrane Science, 2006, 278, 410-417.	4.1	70
69	Incongruent dissolution of wollastonite measured with vertical scanning interferometry. American Mineralogist, 2006, 91, 430-434.	0.9	31
70	Inhibitive Properties and Surface Morphology of a Group of Heterocyclic Diazoles as Inhibitors for Acidic Iron Corrosion. Langmuir, 2005, 21, 12187-12196.	1.6	184
71	Development and validation of vertical scanning interferometry as a novel method for acquiring chondrocyte geometry. Journal of Biomedical Materials Research Part B, 2005, 72A, 83-90.	3.0	17
72	Mineral surfaces and their implications for microbial attachment: Results from Monte Carlo simulations and direct surface observations. Numerische Mathematik, 2005, 305, 766-790.	0.7	29

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73	Quantifying the relationship between microbial attachment and mineral surface dynamics using vertical scanning interferometry (VSI). Numerische Mathematik, 2005, 305, 727-751.	0.7	18
74	Multiple length-scale kinetics: an integrated study of calcite dissolution rates and strontium inhibition. Numerische Mathematik, 2005, 305, 119-146.	0.7	57
75	Etch pit coalescence, surface area, and overall mineral dissolution rates. American Mineralogist, 2005, 90, 1776-1783.	0.9	75
76	Phosphonate mediated surface reaction and reorganization: implications for the mechanism controlling cement hydration inhibition. Chemical Communications, 2005, , 2354.	2.2	18
77	Kinetic Justification of the Solubility Product:Â Application of a General Kinetic Dissolution Model. Journal of Physical Chemistry B, 2005, 109, 1635-1642.	1.2	34
78	Mineralogical approaches to fundamental crystal dissolution kinetics - Dissolution of an A3B structure. European Journal of Mineralogy, 2004, 16, 713-729.	0.4	29
79	Towards a consistent rate law: glass corrosion kinetics near saturation. Geological Society Special Publication, 2004, 236, 579-594.	0.8	11
80	Mineralogical approaches to fundamental crystal dissolution kinetics. American Mineralogist, 2004, 89, 527-540.	0.9	84
81	Direct Observation of Microbial Inhibition of Calcite Dissolution. Applied and Environmental Microbiology, 2004, 70, 1627-1632.	1.4	73
82	A kinetic model of metamorphism: an application to siliceous dolomites. Contributions To Mineralogy and Petrology, 2004, 146, 546-565.	1.2	21
83	Single-crystal plagioclase feldspar dissolution rates measured by vertical scanning interferometry. American Mineralogist, 2004, 89, 51-56.	0.9	49
84	Crystal dissolution kinetics studied by vertical scanning interferometry and Monte Carlo simulations: A brief review and outlook. Nanostructure Science and Technology, 2004, , 209-247.	0.1	5
85	Interferometric study of the dolomite dissolution: a new conceptual model for mineral dissolution. Geochimica Et Cosmochimica Acta, 2003, 67, 1099-1116.	1.6	140
86	Variation in calcite dissolution rates:. Geochimica Et Cosmochimica Acta, 2003, 67, 1623-1634.	1.6	317
87	Vertical Scanning Interferometry: Super-Resolution and in Situ Capabilities for the Studies of Gashydrates. Energy Exploration and Exploitation, 2003, 21, 329-332.	1.1	6
88	A model for crystal dissolution. European Journal of Mineralogy, 2003, 15, 603-615.	0.4	130
89	Calculation of fluid fluxes in Earthâ€™s crust. Geochimica Et Cosmochimica Acta, 2001, 65, 1161-1185.	1.6	16
90	Variation of Crystal Dissolution Rate Based on a Dissolution Stepwave Model. Science, 2001, 291, 2400-2404.	6.0	425

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91	Melting experiments in the systems CaO-MgO-Al2O3-SiO2and MgO-SiO2at 3 to 15 GPa. American Mineralogist, 1998, 83, 491-500.	0.9	20
92	CO2-H2O fluid inclusions in forsterite: An experimental study. European Journal of Mineralogy, 1996, 8, 997-1014.	0.4	4
93	An experimental calibration of the temperature dependence of oxygen isotope fractionation between apatite and calcite at high temperatures (350â€“800Â°C). Chemical Geology, 1995, 125, 281-290.	1.4	23
94	Oxygen isotope fractionation between fluorphlogopite and calcite: an experimental investigation of temperature dependence and F-/OH- effects. European Journal of Mineralogy, 1994, 6, 53-66.	0.4	25
95	Mechanism and kinetics of the reaction: 1 dolomite + 2 quartz = 1 diopside + 2 CO2: a comparison of rock-sample and of powder experiments. Contributions To Mineralogy and Petrology, 1993, 115, 155-164.	1.2	25