

Thorsten Geisler-Wierwille

List of Publications by Year in descending order

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77
papers

5,011
citations

87843

38
h-index

88593

70
g-index

79
all docs

79
docs citations

79
times ranked

3729
citing authors

#	ARTICLE	IF	CITATIONS
1	Re-equilibration of Zircon in Aqueous Fluids and Melts. <i>Elements</i> , 2007, 3, 43-50.	0.5	661
2	An international initiative on long-term behavior of high-level nuclear waste glass. <i>Materials Today</i> , 2013, 16, 243-248.	8.3	417
3	Experimental hydrothermal alteration of partially metamict zircon. <i>American Mineralogist</i> , 2003, 88, 1496-1513.	0.9	246
4	Low-temperature hydrothermal alteration of natural metamict zircons from the Eastern Desert, Egypt. <i>Mineralogical Magazine</i> , 2003, 67, 485-508.	0.6	190
5	Aqueous corrosion of borosilicate glass under acidic conditions: A new corrosion mechanism. <i>Journal of Non-Crystalline Solids</i> , 2010, 356, 1458-1465.	1.5	190
6	Transport of uranium, thorium, and lead in metamict zircon under low-temperature hydrothermal conditions. <i>Chemical Geology</i> , 2002, 191, 141-154.	1.4	189
7	Timing of crystallization of the lunar magma ocean constrained by the oldest zircon. <i>Nature Geoscience</i> , 2009, 2, 133-136.	5.4	189
8	The replacement of plagioclase feldspars by albite: observations from hydrothermal experiments. <i>Contributions To Mineralogy and Petrology</i> , 2010, 159, 43-59.	1.2	169
9	Leaching and differential recrystallization of metamict zircon under experimental hydrothermal conditions. <i>Contributions To Mineralogy and Petrology</i> , 2001, 141, 53-65.	1.2	142
10	The mechanism of borosilicate glass corrosion revisited. <i>Geochimica Et Cosmochimica Acta</i> , 2015, 158, 112-129.	1.6	137
11	An experimental study of the replacement of leucite by analcime. <i>American Mineralogist</i> , 2007, 92, 19-26.	0.9	104
12	Hadean diamonds in zircon from Jack Hills, Western Australia. <i>Nature</i> , 2007, 448, 917-920.	13.7	102
13	Kinetics of thermal recovery and recrystallization of partially metamict zircon: a Raman spectroscopic study. <i>European Journal of Mineralogy</i> , 2001, 13, 1163-1176.	0.4	99
14	Improved U-Th total Pb dating of zircons by electron microprobe using a simple new background modeling procedure and Ca as a chemical criterion of fluid-induced U-Th-Pb discordance in zircon. <i>Chemical Geology</i> , 2000, 163, 269-285.	1.4	87
15	The mechanism of cation and oxygen isotope exchange in alkali feldspars under hydrothermal conditions. <i>Contributions To Mineralogy and Petrology</i> , 2009, 157, 65-76.	1.2	86
16	The behavior of the Hf isotope system in radiation-damaged zircon during experimental hydrothermal alteration. <i>American Mineralogist</i> , 2010, 95, 1343-1348.	0.9	80
17	Experimental study of the aragonite to calcite transition in aqueous solution. <i>Geochimica Et Cosmochimica Acta</i> , 2011, 75, 6211-6224.	1.6	72
18	Alteration of crystalline zircon solid solutions: a case study on zircon from an alkaline pegmatite from Zomba Malosa, Malawi. <i>Contributions To Mineralogy and Petrology</i> , 2010, 160, 909-930.	1.2	68

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19	The role of grain boundaries and transient porosity in rocks as fluid pathways for reaction front propagation. <i>Earth and Planetary Science Letters</i> , 2014, 386, 64-74.	1.8	68
20	Control of silicate weathering by interface-coupled dissolution-precipitation processes at the mineral-solution interface. <i>Geology</i> , 2016, 44, 567-570.	2.0	68
21	Real-time in situ observations of reaction and transport phenomena during silicate glass corrosion by fluid-cell Raman spectroscopy. <i>Nature Materials</i> , 2019, 18, 342-348.	13.3	68
22	Polycrystalline apatite synthesized by hydrothermal replacement of calcium carbonates. <i>Geochimica Et Cosmochimica Acta</i> , 2011, 75, 3486-3500.	1.6	65
23	Impact of self-irradiation damage on the aqueous durability of zircon (ZrSiO ₄): implications for its suitability as a nuclear waste form. <i>Journal of Physics Condensed Matter</i> , 2003, 15, L597-L605.	0.7	64
24	A Raman spectroscopic study of high-uranium zircon from the Chernobyl "lava". <i>European Journal of Mineralogy</i> , 2006, 17, 883-894.	0.4	62
25	Complex history of a zircon aggregate from lunar breccia 73235. <i>Geochimica Et Cosmochimica Acta</i> , 2007, 71, 1370-1381.	1.6	62
26	Subduction zone forearc serpentinites as incubators for deep microbial life. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, 4324-4329.	3.3	59
27	A light carbon reservoir recorded in zircon-hosted diamond from the Jack Hills. <i>Nature</i> , 2008, 454, 92-95.	13.7	58
28	Experimental investigations into the silicification of olivine: Implications for the reaction mechanism and acid neutralization. <i>American Mineralogist</i> , 2011, 96, 1503-1511.	0.9	58
29	Isothermal annealing of partially metamict zircon: evidence for a three-stage recovery process. <i>Physics and Chemistry of Minerals</i> , 2002, 29, 420-429.	0.3	56
30	The experimental replacement of ilmenite by rutile in HCl solutions. <i>Mineralogical Magazine</i> , 2010, 74, 633-644.	0.6	53
31	Recrystallization of almost fully amorphous zircon under hydrothermal conditions: An infrared spectroscopic study. <i>Journal of Nuclear Materials</i> , 2003, 320, 280-291.	1.3	52
32	Pattern Formation in Silicate Glass Corrosion Zones. <i>International Journal of Applied Glass Science</i> , 2013, 4, 357-370.	1.0	50
33	Mechanism of hydrothermal alteration of natural self-irradiated and synthetic crystalline titanate-based pyrochlore. <i>Geochimica Et Cosmochimica Acta</i> , 2007, 71, 3311-3322.	1.6	48
34	Crystal growth of apatite by replacement of an aragonite precursor. <i>Journal of Crystal Growth</i> , 2010, 312, 2431-2440.	0.7	47
35	Towards a unifying mechanistic model for silicate glass corrosion. <i>Npj Materials Degradation</i> , 2018, 2, .	2.6	47
36	Experimental observation of an interface-controlled pseudomorphic replacement reaction in a natural crystalline pyrochlore. <i>American Mineralogist</i> , 2005, 90, 1683-1687.	0.9	45

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37	High-temperature calorimetry of (La _{1-x} Ln _x)PO ₄ solid solutions. Journal of Chemical Thermodynamics, 2007, 39, 236-239.	1.0	43
38	Radiation damage effects and percolation theory. Journal of Physics Condensed Matter, 2004, 16, S2623-S2627.	0.7	39
39	Low-temperature aqueous alteration of crystalline pyrochlore: correspondence between nature and experiment. Mineralogical Magazine, 2004, 68, 905-922.	0.6	38
40	Thermal history of Northwest Africa 5073: A coarse-grained Stannern-type eucrite containing cm-sized pyroxenes and large zircon grains. Meteoritics and Planetary Science, 2011, 46, 1754-1773.	0.7	38
41	The chemistry of the phosphates of barium and tetravalent cations in the 1:1 stoichiometry. Journal of Solid State Chemistry, 2007, 180, 2346-2355.	1.4	32
42	Periodic precipitation pattern formation in hydrothermally treated metamict zircon. American Mineralogist, 2004, 89, 1341-1347.	0.9	31
43	Structural investigation of the synthetic CaAn(PO ₄) ₂ (An=Th and Np) cheralite-like phosphates. Physics and Chemistry of Minerals, 2008, 35, 603-609.	0.3	31
44	The role of Th-U minerals in assessing the performance of nuclear waste forms. Mineralogical Magazine, 2014, 78, 1071-1095.	0.6	31
45	Incipient silicification of recent conifer wood at a Yellowstone hot spring. Geochimica Et Cosmochimica Acta, 2015, 149, 79-87.	1.6	31
46	Experimental hydrothermal alteration of crystalline and radiation-damaged pyrochlore. Journal of Nuclear Materials, 2005, 344, 17-23.	1.3	30
47	The mechanism of the hydrothermal alteration of cerium- and plutonium-doped zirconolite. Journal of Nuclear Materials, 2011, 410, 10-23.	1.3	30
48	Forming Cohesive Calcium Oxalate Layers on Marble Surfaces for Stone Conservation. Crystal Growth and Design, 2014, 14, 3910-3917.	1.4	27
49	Real-time monitoring of the overall exchange of oxygen isotopes between aqueous CO_2 and H ₂ O by Raman spectroscopy. Geochimica Et Cosmochimica Acta. 2012. 90. 1-11.	1.6	26
50	Raman scattering from metamict zircon: comments on "Metamictisation of natural zircon: accumulation versus thermal annealing of radioactivity-induced damage" by Nasdala et al. 2001 (Contribution to Mineralogy and Petrology)141: 125-144. Contributions To Mineralogy and Petrology, 2002, 143, 750-755.	1.2	25
51	Structural recovery of self-irradiated natural and ²³⁸ Pu-doped zircon in an acidic solution at 175°C. Journal of Nuclear Materials, 2005, 336, 22-30.	1.3	22
52	Ion microprobe (SHRIMP) dating of detrital zircon grains from quartzites of the Eckergneiss Complex, Harz Mountains (Germany): implications for the provenance and the geological history. International Journal of Earth Sciences, 2005, 94, 369-384.	0.9	21
53	In Situ Hyperspectral Raman Imaging: A New Method to Investigate Sintering Processes of Ceramic Material at High-temperature. Applied Sciences (Switzerland), 2019, 9, 1310.	1.3	21
54	Micro-analytical uranium isotope and chemical investigations of zircon crystals from the Chernobyl lava and their nuclear fuel inclusions. Journal of Nuclear Materials, 2013, 439, 51-56.	1.3	20

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55	Evidence for Lattice Strain and Non-ideal Behavior in the $(\text{La}_{1-x}\text{Eu}_x)\text{PO}_4$ Solid Solution from X-ray Diffraction and Vibrational Spectroscopy. <i>Frontiers in Earth Science</i> , 2016, 4, .	0.8	18
56	The Effect of Heavy Ion Irradiation on the Forward Dissolution Rate of Borosilicate Glasses Studied In Situ and Real Time by Fluid-Cell Raman Spectroscopy. <i>Materials</i> , 2019, 12, 1480.	1.3	18
57	Diagenetic stability of non-traditional stable isotope systems (Ca, Sr, Mg, Zn) in teeth – An in-vitro alteration experiment of biogenic apatite in isotopically enriched tracer solution. <i>Chemical Geology</i> , 2021, 572, 120196.	1.4	17
58	In Situ Hyperspectral Raman Imaging of Ternesite Formation and Decomposition at High Temperatures. <i>Minerals (Basel, Switzerland)</i> , 2020, 10, 287.	0.8	15
59	A Raman spectroscopic study of the phase transition of $\text{BaZr}(\text{PO}_4)_2$: Evidence for a trigonal structure of the high-temperature polymorph. <i>Journal of Solid State Chemistry</i> , 2006, 179, 1490-1496.	1.4	14
60	Siderite cannot be used as CO_2 sensor for Archaean atmospheres. <i>Geochimica Et Cosmochimica Acta</i> , 2017, 214, 209-225.	1.6	14
61	In situ Raman imaging of high-temperature solid-state reactions in the $\text{CaSO}_4\text{-SiO}_2$ system. <i>International Journal of Coal Science and Technology</i> , 2019, 6, 247-259.	2.7	13
62	Tracing Mineral Reactions Using Confocal Raman Spectroscopy. <i>Minerals (Basel, Switzerland)</i> , 2018, 8, 158.	0.8	11
63	Fluoridation of a lizard bone embedded in Dominican amber suggests open-system behavior. <i>PLoS ONE</i> , 2020, 15, e0228843.	1.1	11
64	High-temperature heat capacity of zirconolite ($\text{CaZrTi}_2\text{O}_7$). <i>Journal of Chemical Thermodynamics</i> , 2006, 38, 1013-1016.	1.0	10
65	Applications of near-infrared FT-Raman spectroscopy in metamict and annealed zircon: oxidation state of U ions. <i>Physics and Chemistry of Minerals</i> , 2004, 31, 405.	0.3	9
66	Insights into the evolution of carbonate-bearing kaolin during sintering revealed by in situ hyperspectral Raman imaging. <i>Journal of the American Ceramic Society</i> , 2018, 101, 897-910.	1.9	9
67	Thermodynamic and spectroscopic studies on the phase transition of $\text{BaHf}(\text{PO}_4)_2$. <i>Thermochimica Acta</i> , 2006, 451, 1-4.	1.2	8
68	Topotactic formation of ferrisicklerite from natural triphylite under hydrothermal conditions. <i>Mineralogy and Petrology</i> , 2013, 107, 501-515.	0.4	7
69	High-temperature heat capacity of Gd-pyrochlore. <i>Journal of Chemical Thermodynamics</i> , 2009, 41, 1049-1051.	1.0	5
70	Corrosion of ternary borosilicate glass in acidic solution studied in operando by fluid-cell Raman spectroscopy. <i>Npj Materials Degradation</i> , 2021, 5, .	2.6	5
71	Experimental Aqueous Alteration of Cortical Bone Microarchitecture Analyzed by Quantitative Micro-Computed Tomography. <i>Frontiers in Earth Science</i> , 2021, 9, .	0.8	4
72	Synthesis and Characterisation of $\text{BaM}_{1-x}\text{IV}_x(\text{PO}_4)_4$ in the View of Conditioning of the Actinides. <i>Advances in Science and Technology</i> , 2006, 45, 2012.	0.2	3

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73	Solid-state diffusion in amorphous zirconolite. <i>Journal of Applied Physics</i> , 2014, 116, 184901.	1.1	3
74	Radiation damage effects on helium diffusion in zircon. <i>Journal of Materials Research</i> , 2021, 36, 3239-3247.	1.2	3
75	Artificial weathering of rock types bearing petroglyphs from Murujuga, Western Australia. <i>Heritage Science</i> , 2022, 10, .	1.0	3
76	Feedbacks and non-linearity of silicate glass alteration in hyperalkaline solution studied by in operando fluid-cell Raman spectroscopy. <i>Geochimica Et Cosmochimica Acta</i> , 2022, 329, 1-21.	1.6	2
77	Electron Probe Microanalysis Study on an Unusual Chernobyl Hot Particle. <i>Microscopy and Microanalysis</i> , 2013, 19, 1808-1809.	0.2	0