

# 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	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
2	Artificial weathering of rock types bearing petroglyphs from Murujuga, Western Australia. <i>Heritage Science</i> , 2022, 10, .	1.0	3
3	Experimental Aqueous Alteration of Cortical Bone Microarchitecture Analyzed by Quantitative Micro-Computed Tomography. <i>Frontiers in Earth Science</i> , 2021, 9, .	0.8	4
4	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
5	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
6	Radiation damage effects on helium diffusion in zircon. <i>Journal of Materials Research</i> , 2021, 36, 3239-3247.	1.2	3
7	In Situ Hyperspectral Raman Imaging of Ternesite Formation and Decomposition at High Temperatures. <i>Minerals (Basel, Switzerland)</i> , 2020, 10, 287.	0.8	15
8	Fluoridation of a lizard bone embedded in Dominican amber suggests open-system behavior. <i>PLoS ONE</i> , 2020, 15, e0228843.	1.1	11
9	In situ Raman imaging of high-temperature solid-state reactions in the CaSO <sub>4</sub> -SiO <sub>2</sub> system. <i>International Journal of Coal Science and Technology</i> , 2019, 6, 247-259.	2.7	13
10	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
11	In Situ Hyperspectral Raman Imaging: A New Method to Investigate Sintering Processes of Ceramic Material at High-temperature. <i>Applied Sciences (Switzerland)</i> , 2019, 9, 1310.	1.3	21
12	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
13	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
14	Towards a unifying mechanistic model for silicate glass corrosion. <i>Npj Materials Degradation</i> , 2018, 2, .	2.6	47
15	Tracing Mineral Reactions Using Confocal Raman Spectroscopy. <i>Minerals (Basel, Switzerland)</i> , 2018, 8, 158.	0.8	11
16	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
17	Siderite cannot be used as CO <sub>2</sub> sensor for Archaean atmospheres. <i>Geochimica Et Cosmochimica Acta</i> , 2017, 214, 209-225.	1.6	14
18	Evidence for Lattice Strain and Non-ideal Behavior in the (La <sub>1-x</sub> Eu <sub>x</sub> )PO <sub>4</sub> Solid Solution from X-ray Diffraction and Vibrational Spectroscopy. <i>Frontiers in Earth Science</i> , 2016, 4, .	0.8	18

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19	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
20	The mechanism of borosilicate glass corrosion revisited. <i>Geochimica Et Cosmochimica Acta</i> , 2015, 158, 112-129.	1.6	137
21	Incipient silicification of recent conifer wood at a Yellowstone hot spring. <i>Geochimica Et Cosmochimica Acta</i> , 2015, 149, 79-87.	1.6	31
22	Solid-state diffusion in amorphous zirconolite. <i>Journal of Applied Physics</i> , 2014, 116, 184901.	1.1	3
23	The role of Th-U minerals in assessing the performance of nuclear waste forms. <i>Mineralogical Magazine</i> , 2014, 78, 1071-1095.	0.6	31
24	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
25	Forming Cohesive Calcium Oxalate Layers on Marble Surfaces for Stone Conservation. <i>Crystal Growth and Design</i> , 2014, 14, 3910-3917.	1.4	27
26	Topotactic formation of ferrisicklerite from natural triphylite under hydrothermal conditions. <i>Mineralogy and Petrology</i> , 2013, 107, 501-515.	0.4	7
27	Micro-analytical uranium isotope and chemical investigations of zircon crystals from the Chernobyl lava and their nuclear fuel inclusions. <i>Journal of Nuclear Materials</i> , 2013, 439, 51-56.	1.3	20
28	An international initiative on long-term behavior of high-level nuclear waste glass. <i>Materials Today</i> , 2013, 16, 243-248.	8.3	417
29	Pattern Formation in Silicate Glass Corrosion Zones. <i>International Journal of Applied Glass Science</i> , 2013, 4, 357-370.	1.0	50
30	Electron Probe Microanalysis Study on an Unusual Chernobyl Hot Particle. <i>Microscopy and Microanalysis</i> , 2013, 19, 1808-1809.	0.2	0
31	Real-time monitoring of the overall exchange of oxygen isotopes between aqueous $\text{CO}_2$ and $\text{H}_2\text{O}$ by Raman spectroscopy. <i>Geochimica Et Cosmochimica Acta</i> , 2012, 90, 1-11.	1.6	26
32	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
33	Polycrystalline apatite synthesized by hydrothermal replacement of calcium carbonates. <i>Geochimica Et Cosmochimica Acta</i> , 2011, 75, 3486-3500.	1.6	65
34	Experimental study of the aragonite to calcite transition in aqueous solution. <i>Geochimica Et Cosmochimica Acta</i> , 2011, 75, 6211-6224.	1.6	72
35	Thermal history of Northwest Africa 5073: A coarse-grained Stannern trend eucrite containing cm-sized pyroxenes and large zircon grains. <i>Meteoritics and Planetary Science</i> , 2011, 46, 1754-1773.	0.7	38
36	The mechanism of the hydrothermal alteration of cerium- and plutonium-doped zirconolite. <i>Journal of Nuclear Materials</i> , 2011, 410, 10-23.	1.3	30

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37	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
38	Alteration of crystalline zircon solid solutions: a case study on zircon from an alkaline pegmatite from Zombaâ€“Malosa, Malawi. <i>Contributions To Mineralogy and Petrology</i> , 2010, 160, 909-930.	1.2	68
39	Crystal growth of apatite by replacement of an aragonite precursor. <i>Journal of Crystal Growth</i> , 2010, 312, 2431-2440.	0.7	47
40	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
41	The experimental replacement of ilmenite by rutile in HCl solutions. <i>Mineralogical Magazine</i> , 2010, 74, 633-644.	0.6	53
42	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
43	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
44	Timing of crystallization of the lunar magma ocean constrained by the oldest zircon. <i>Nature Geoscience</i> , 2009, 2, 133-136.	5.4	189
45	High-temperature heat capacity of Gd-pyrochlore. <i>Journal of Chemical Thermodynamics</i> , 2009, 41, 1049-1051.	1.0	5
46	Structural investigation of the synthetic $\text{CaAn}(\text{PO}_4)_2$ ( $\text{An}=\text{Th}$ and $\text{Np}$ ) cheralite-like phosphates. <i>Physics and Chemistry of Minerals</i> , 2008, 35, 603-609.	0.3	31
47	A light carbon reservoir recorded in zircon-hosted diamond from the Jack Hills. <i>Nature</i> , 2008, 454, 92-95.	13.7	58
48	Complex history of a zircon aggregate from lunar breccia 73235. <i>Geochimica Et Cosmochimica Acta</i> , 2007, 71, 1370-1381.	1.6	62
49	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
50	An experimental study of the replacement of leucite by analcime. <i>American Mineralogist</i> , 2007, 92, 19-26.	0.9	104
51	The chemistry of the phosphates of barium and tetravalent cations in the 1:1 stoichiometry. <i>Journal of Solid State Chemistry</i> , 2007, 180, 2346-2355.	1.4	32
52	Hadean diamonds in zircon from Jack Hills, Western Australia. <i>Nature</i> , 2007, 448, 917-920.	13.7	102
53	Re-equilibration of Zircon in Aqueous Fluids and Melts. <i>Elements</i> , 2007, 3, 43-50.	0.5	661
54	High-temperature calorimetry of $(\text{La}_{1-x}\text{Ln}_x)\text{PO}_4$ solid solutions. <i>Journal of Chemical Thermodynamics</i> , 2007, 39, 236-239.	1.0	43

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55	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
56	A Raman spectroscopic study of the phase transition of BaZr(PO <sub>4</sub> ) <sub>2</sub> : Evidence for a trigonal structure of the high-temperature polymorph. <i>Journal of Solid State Chemistry</i> , 2006, 179, 1490-1496.	1.4	14
57	High-temperature heat capacity of zirconolite (CaZrTi <sub>2</sub> O <sub>7</sub> ). <i>Journal of Chemical Thermodynamics</i> , 2006, 38, 1013-1016.	1.0	10
58	Thermodynamic and spectroscopic studies on the phase transition of BaHf(PO <sub>4</sub> ) <sub>2</sub> . <i>Thermochimica Acta</i> , 2006, 451, 1-4.	1.2	8
59	Synthesis and Characterisation of BaM <sub>4</sub> (VO <sub>4</sub> ) <sub>2</sub> (PO <sub>4</sub> ) <sub>2</sub> in the View of Conditioning of the Actinides. <i>Advances in Science and Technology</i> , 2006, 45, 2012.	0.2	3
60	Structural recovery of self-irradiated natural and <sup>238</sup> Pu-doped zircon in an acidic solution at 175°C. <i>Journal of Nuclear Materials</i> , 2005, 336, 22-30.	1.3	22
61	Experimental hydrothermal alteration of crystalline and radiation-damaged pyrochlore. <i>Journal of Nuclear Materials</i> , 2005, 344, 17-23.	1.3	30
62	Ion microprobe (SHRIMP) dating of detrital zircon grains from quartzites of the Eckergrneiss Complex, Harz Mountains (Germany): implications for the provenance and the geological history. <i>International Journal of Earth Sciences</i> , 2005, 94, 369-384.	0.9	21
63	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
64	Periodic precipitation pattern formation in hydrothermally treated metamict zircon. <i>American Mineralogist</i> , 2004, 89, 1341-1347.	0.9	31
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	Radiation damage effects and percolation theory. <i>Journal of Physics Condensed Matter</i> , 2004, 16, S2623-S2627.	0.7	39
67	Low-temperature aqueous alteration of crystalline pyrochlore: correspondence between nature and experiment. <i>Mineralogical Magazine</i> , 2004, 68, 905-922.	0.6	38
68	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
69	Low-temperature hydrothermal alteration of natural metamict zircons from the Eastern Desert, Egypt. <i>Mineralogical Magazine</i> , 2003, 67, 485-508.	0.6	190
70	Impact of self-irradiation damage on the aqueous durability of zircon (ZrSiO <sub>4</sub> ): implications for its suitability as a nuclear waste form. <i>Journal of Physics Condensed Matter</i> , 2003, 15, L597-L605.	0.7	64
71	Experimental hydrothermal alteration of partially metamict zircon. <i>American Mineralogist</i> , 2003, 88, 1496-1513.	0.9	246
72	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

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73	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
74	Raman scattering from metamict zircon: comments on "Metamictisation of natural zircon: accumulation versus thermal annealing of radioactivity-induced damage" by Nasdala et al. 2001 ( <i>Contributions to Mineralogy and Petrology</i> ) 141: 125-144. <i>Contributions To Mineralogy and Petrology</i> , 2002, 143, 750-755.	1.2	25
75	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
76	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
77	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