

Gilles Berger

List of Publications by Year in descending order

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96
papers

9,185
citations

50244

46
h-index

43868

91
g-index

100
all docs

100
docs citations

100
times ranked

6596
citing authors

#	ARTICLE	IF	CITATIONS
1	Laser-Induced Breakdown Spectroscopy (LIBS) characterization of granular soils: Implications for ChemCam analyses at Gale crater, Mars. <i>Icarus</i> , 2021, 365, 114481.	1.1	11
2	Mechanism and kinetics of hematite reduction under typical PWR secondary circuit condition. <i>Journal of Nuclear Materials</i> , 2020, 533, 152132.	1.3	1
3	Experimental exploration of volcanic rocks-atmosphere interaction under Venus surface conditions. <i>Icarus</i> , 2019, 329, 8-23.	1.1	40
4	Mechanism and kinetics of magnetite oxidation under hydrothermal conditions. <i>RSC Advances</i> , 2019, 9, 33633-33642.	1.7	54
5	Clay minerals related to the late magmatic activity of the Piton des Neiges (Réunion Island): consequence for the primitive crusts. <i>Clay Minerals</i> , 2018, 53, 675-690.	0.2	3
6	Crystal packing and theoretical analysis of halogen- and hydrogen-bonded hydrazones from pharmaceuticals. Evidence of type I and II halogen bonds in extended chains of dichloromethane. <i>Acta Crystallographica Section B: Structural Science, Crystal Engineering and Materials</i> , 2018, 74, 618-627.	0.5	7
7	Martian Eolian Dust Probed by ChemCam. <i>Geophysical Research Letters</i> , 2018, 45, 10,968.	1.5	40
8	Electrochemical deposition of magnetite, copper, and mixed magnetite-copper films on nickel-based superalloy substrates. <i>Journal of Applied Electrochemistry</i> , 2017, 47, 931-939.	1.5	1
9	Organic Control of Dioctahedral and Trioctahedral Clay Formation in an Alkaline Soil System in the Pantanal Wetland of Nhecolândia, Brazil. <i>PLoS ONE</i> , 2016, 11, e0159972.	1.1	20
10	Application of distance correction to ChemCam laser-induced breakdown spectroscopy measurements. <i>Spectrochimica Acta, Part B: Atomic Spectroscopy</i> , 2016, 120, 19-29.	1.5	27
11	Tracing the Origin and Evolution of Geochemical Characteristics of Waters from the Candiota Coal Mine Area (Southern Brazil): Part I. <i>Mine Water and the Environment</i> , 2016, 35, 29-43.	0.9	8
12	ChemCam activities and discoveries during the nominal mission of the Mars Science Laboratory in Gale crater, Mars. <i>Journal of Analytical Atomic Spectrometry</i> , 2016, 31, 863-889.	1.6	134
13	Direct measurement of CO ₂ solubility and pH in NaCl hydrothermal solutions by combining in-situ potentiometry and Raman spectroscopy up to 280 °C and 150 bar. <i>Geochimica Et Cosmochimica Acta</i> , 2016, 177, 238-253.	1.6	42
14	Diagenesis and clay mineral formation at Gale Crater, Mars. <i>Journal of Geophysical Research E: Planets</i> , 2015, 120, 1-19.	1.5	72
15	Chemical variations in Yellowknife Bay formation sedimentary rocks analyzed by ChemCam on board the Curiosity rover on Mars. <i>Journal of Geophysical Research E: Planets</i> , 2015, 120, 452-482.	1.5	51
16	Hydrothermal alteration in basalts from Vargemão impact structure, south Brazil, and implications for recognition of impact-induced hydrothermalism on Mars. <i>Icarus</i> , 2015, 252, 347-365.	1.1	16
17	Evidence for indigenous nitrogen in sedimentary and aeolian deposits from the Curiosity rover investigations at Gale crater, Mars. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 4245-4250.	3.3	172
18	Transient liquid water and water activity at Gale crater on Mars. <i>Nature Geoscience</i> , 2015, 8, 357-361.	5.4	277

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19	Stability of Hydrazine, Morpholine and Ethanolamine at 275°C and In Situ Measurement of Redox and Acid-Base Properties. <i>Journal of Solution Chemistry</i> , 2015, 44, 1900-1919.	0.6	3
20	Compositions of coarse and fine particles in martian soils at gale: A window into the production of soils. <i>Icarus</i> , 2015, 249, 22-42.	1.1	64
21	Calcium, Na, K and Mg Concentrations in Seawater by Inductively Coupled Plasma-Atomic Emission Spectrometry: Applications to IAPSO Seawater Reference Material, Hydrothermal Fluids and Synthetic Seawater Solutions. <i>Geostandards and Geoanalytical Research</i> , 2014, 38, 355-362.	1.7	29
22	Correcting for variable laser-target distances of laser-induced breakdown spectroscopy measurements with ChemCam using emission lines of Martian dust spectra. <i>Spectrochimica Acta, Part B: Atomic Spectroscopy</i> , 2014, 96, 51-60.	1.5	45
23	Volatile and Organic Compositions of Sedimentary Rocks in Yellowknife Bay, Gale Crater, Mars. <i>Science</i> , 2014, 343, 1245267.	6.0	323
24	A Habitable Fluvio-Lacustrine Environment at Yellowknife Bay, Gale Crater, Mars. <i>Science</i> , 2014, 343, 1242777.	6.0	687
25	Mineralogy of a Mudstone at Yellowknife Bay, Gale Crater, Mars. <i>Science</i> , 2014, 343, 1243480.	6.0	508
26	Elemental Geochemistry of Sedimentary Rocks at Yellowknife Bay, Gale Crater, Mars. <i>Science</i> , 2014, 343, 1244734.	6.0	246
27	Clay mineral formation on Mars: Chemical constraints and possible contribution of basalt out-gassing. <i>Planetary and Space Science</i> , 2014, 95, 25-32.	0.9	12
28	The role of S ²⁻ ion in thermochemical sulphate reduction: Geological and geochemical implications. <i>Earth and Planetary Science Letters</i> , 2014, 396, 190-200.	1.8	39
29	Potentiometry up to 275°C: Example of pH titrations of cobalt ferrite particles. <i>Journal of Colloid and Interface Science</i> , 2014, 430, 12-17.	5.0	4
30	Chemistry and texture of the rocks at Rocknest, Gale Crater: Evidence for sedimentary origin and diagenetic alteration. <i>Journal of Geophysical Research E: Planets</i> , 2014, 119, 2109-2131.	1.5	48
31	Chemistry of fracture-filling raised ridges in Yellowknife Bay, Gale Crater: Window into past aqueous activity and habitability on Mars. <i>Journal of Geophysical Research E: Planets</i> , 2014, 119, 2398-2415.	1.5	70
32	Igneous mineralogy at Bradbury Rise: The first ChemCam campaign at Gale crater. <i>Journal of Geophysical Research E: Planets</i> , 2014, 119, 30-46.	1.5	114
33	Abiotic nitrate reduction induced by carbon steel and hydrogen: Implications for environmental processes in waste repositories. <i>Applied Geochemistry</i> , 2013, 28, 155-163.	1.4	20
34	X-ray Diffraction Results from Mars Science Laboratory: Mineralogy of Rocknest at Gale Crater. <i>Science</i> , 2013, 341, 1238932.	6.0	327
35	Curiosity at Gale Crater, Mars: Characterization and Analysis of the Rocknest Sand Shadow. <i>Science</i> , 2013, 341, 1239505.	6.0	280
36	Abundance and Isotopic Composition of Gases in the Martian Atmosphere from the Curiosity Rover. <i>Science</i> , 2013, 341, 263-266.	6.0	327

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37	Volatile, Isotope, and Organic Analysis of Martian Fines with the Mars Curiosity Rover. <i>Science</i> , 2013, 341, 1238937.	6.0	367
38	Isotope Ratios of H, C, and O in CO ₂ and H ₂ O of the Martian Atmosphere. <i>Science</i> , 2013, 341, 260-263.	6.0	241
39	Geochemical Consequences of Widespread Clay Mineral Formation in Mars's Ancient Crust. <i>Space Science Reviews</i> , 2013, 174, 329-364.	3.7	108
40	Geochemistry of Carbonates on Mars: Implications for Climate History and Nature of Aqueous Environments. <i>Space Science Reviews</i> , 2013, 174, 301-328.	3.7	126
41	Geochemical Reservoirs and Timing of Sulfur Cycling on Mars. <i>Space Science Reviews</i> , 2013, 174, 251-300.	3.7	103
42	Origin of cap carbonates: An experimental approach. <i>Palaeogeography, Palaeoclimatology, Palaeoecology</i> , 2013, 392, 524-533.	1.0	23
43	Sulphide mineral reactions in clay-rich rock induced by high hydrogen pressure. Application to disturbed or natural settings up to 250 °C and 30 bar. <i>Chemical Geology</i> , 2013, 351, 217-228.	1.4	75
44	Engineered materials as potential geocatalysts in deep geological nuclear waste repositories: A case study of the stainless steel catalytic effect on nitrate reduction by hydrogen. <i>Applied Geochemistry</i> , 2013, 35, 279-288.	1.4	9
45	Martian Fluvial Conglomerates at Gale Crater. <i>Science</i> , 2013, 340, 1068-1072.	6.0	326
46	The Petrochemistry of Jake_M: A Martian Mugearite. <i>Science</i> , 2013, 341, 1239463.	6.0	134
47	Soil Diversity and Hydration as Observed by ChemCam at Gale Crater, Mars. <i>Science</i> , 2013, 341, 1238670.	6.0	215
48	How tillite weathering during the snowball Earth aftermath induced cap carbonate deposition. <i>Geology</i> , 2012, 40, 1027-1030.	2.0	27
49	The ChemCam Instrument Suite on the Mars Science Laboratory (MSL) Rover: Science Objectives and Mast Unit Description. <i>Space Science Reviews</i> , 2012, 170, 95-166.	3.7	372
50	The solubility of CO ₂ +H ₂ S mixtures in water and 2M NaCl at 120°C and pressures up to 35MPa. <i>International Journal of Greenhouse Gas Control</i> , 2012, 10, 123-133.	2.3	48
51	Geochemical Reservoirs and Timing of Sulfur Cycling on Mars. <i>Space Sciences Series of ISSI</i> , 2012, , 251-300.	0.0	2
52	The ChemCam Instrument Suite on the Mars Science Laboratory (MSL) Rover: Science Objectives and Mast Unit Description. , 2012, , 95-166.		2
53	Geochemical Consequences of Widespread Clay Mineral Formation in Mars's Ancient Crust. <i>Space Sciences Series of ISSI</i> , 2012, , 329-364.	0.0	0
54	Geochemistry of Carbonates on Mars: Implications for Climate History and Nature of Aqueous Environments. <i>Space Sciences Series of ISSI</i> , 2012, , 301-328.	0.0	2

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55	Modeling of continental weathering under high-CO ₂ atmospheres during Precambrian times. <i>Geochemistry, Geophysics, Geosystems</i> , 2011, 12, n/a-n/a.	1.0	16
56	Influence of temperature and reducing conditions on the sorption of sulfate on magnetite. <i>Journal of Colloid and Interface Science</i> , 2010, 352, 476-482.	5.0	9
57	Petrography and chemistry of SiO ₂ filling phases in the amethyst geodes from the Serra Geral Formation deposit, Rio Grande do Sul, Brazil. <i>Journal of South American Earth Sciences</i> , 2010, 29, 751-760.	0.6	21
58	Kinetics of pyrite to pyrrhotite reduction by hydrogen in calcite buffered solutions between 90 and 180°C: Implications for nuclear waste disposal. <i>Geochimica Et Cosmochimica Acta</i> , 2010, 74, 2894-2914.	1.6	84
59	Evidence in favor of small amounts of ephemeral and transient water during alteration at Meridiani Planum, Mars. <i>American Mineralogist</i> , 2009, 94, 1279-1282.	0.9	45
60	Experimental reduction of aqueous sulphate by hydrogen under hydrothermal conditions: Implication for the nuclear waste storage. <i>Geochimica Et Cosmochimica Acta</i> , 2009, 73, 4824-4835.	1.6	60
61	How element translocation by plants may stabilize illitic clays in the surface of temperate soils. <i>Geoderma</i> , 2009, 151, 22-30.	2.3	53
62	Overview of Mars surface geochemical diversity through Alpha Particle X-Ray Spectrometer data multidimensional analysis: First attempt at modeling rock alteration. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	25
63	Rare earth element sorption by basaltic rock: Experimental data and modeling results using the "Generalised Composite approach". <i>Geochimica Et Cosmochimica Acta</i> , 2008, 72, 1043-1056.	1.6	40
64	Europium retention onto clay minerals from 25 to 150°C: Experimental measurements, spectroscopic features and sorption modelling. <i>Geochimica Et Cosmochimica Acta</i> , 2006, 70, 4563-4578.	1.6	172
65	Surface chemistry of kaolinite and Na-montmorillonite in aqueous electrolyte solutions at 25 and 60°C: Experimental and modeling study. <i>Geochimica Et Cosmochimica Acta</i> , 2006, 70, 4579-4599.	1.6	103
66	A new and fast method to determine mixing and conductive cooling of thermal waters in carbonate-evaporite environments. <i>Geothermics</i> , 2006, 35, 285-301.	1.5	5
67	Geochemical modeling of gold precipitation conditions in the Bloco do Butiã Mine, Lavras do Sul/Brazil. <i>Anais Da Academia Brasileira De Ciencias</i> , 2005, 77, 717-728.	0.3	7
68	Experimental sorption of Ni ²⁺ , Cs ⁺ and Ln ³⁺ onto a montmorillonite up to 150°C. <i>Geochimica Et Cosmochimica Acta</i> , 2005, 69, 4937-4948.	1.6	94
69	First coupled Sr and Pb isotopic measurements in volcanic gas condensates and groundwaters of Vulcano Island (Italy). <i>Geochemistry, Geophysics, Geosystems</i> , 2005, 6, n/a-n/a.	1.0	9
70	Chlorites: occurrence, genesis and crystal chemistry " introduction. <i>Clay Minerals</i> , 2003, 38, 279-280.	0.2	0
71	Microscopic reversibility of Sm and Yb sorption onto smectite and kaolinite. <i>Geochimica Et Cosmochimica Acta</i> , 2003, 67, 2515-2527.	1.6	26
72	Experimental dissolution of sanidine under hydrothermal conditions: Mechanism and rate. <i>Numerische Mathematik</i> , 2002, 302, 663-685.	0.7	26

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73	Authigenic kaolin and illitic minerals during burial diagenesis of sandstones: a review. <i>Clay Minerals</i> , 2002, 37, 1-22.	0.2	265
74	Sorption of lanthanides on smectite and kaolinite. <i>Chemical Geology</i> , 2002, 182, 57-68.	1.4	392
75	Geochemistry of the Bagnères-de-Bigorre thermal waters from the North Pyrenean Zone (France). <i>Geofluids</i> , 2002, 2, 25-40.	0.3	21
76	Solubility study of Ti,Zr-based ceramics designed to immobilize long-lived radionuclides. <i>American Mineralogist</i> , 2001, 86, 871-880.	0.9	34
77	Expandability- layer stacking relationship during experimental alteration of a Wyoming bentonite in pH 13.5 solutions at 35 and 60°C. <i>Clay Minerals</i> , 2001, 36, 197-210.	0.2	25
78	An experimental alteration of montmorillonite to a di + trioctahedral smectite assemblage at 100 and 200°C. <i>Clay Minerals</i> , 2001, 36, 211-225.	0.2	29
79	Initial and long-term dissolution rates of aluminosilicate glasses enriched with Ti, Zr and Nd. <i>Chemical Geology</i> , 1999, 160, 39-62.	1.4	63
80	Potassium sources and illitization in Texas Gulf Coast shale diagenesis. <i>Journal of Sedimentary Research</i> , 1999, 69, 151-157.	0.8	35
81	Diagenetic-type reactions related to hydrothermal alteration in the Soultz-sous-Forêts granite, France. <i>European Journal of Mineralogy</i> , 1999, 11, 731-742.	0.4	46
82	Altération en présence d'argile humide à 70°C de céramiques à base de Ti et Zr, de type Synroc. <i>Comptes Rendus De L'Académie Des Sciences Earth & Planetary Sciences Série II, Sciences De La Terre Et Des Planètes</i> , 1998, 327, 827-831.	0.2	0
83	Kaolinite transformation in high molar KOH solutions. <i>Applied Geochemistry</i> , 1998, 13, 619-629.	1.4	96
84	Kaolinite and smectite dissolution rate in high molar KOH solutions at 35°C and 80°C. <i>Applied Geochemistry</i> , 1998, 13, 905-916.	1.4	217
85	Kaolinite-to-dickite reaction in sandstone reservoirs. <i>Clay Minerals</i> , 1998, 33, 297-316.	0.2	148
86	Chemical Durability of Aluminosilicate Glasses Containing Low Solubility Chemical Elements. <i>Materials Research Society Symposia Proceedings</i> , 1997, 506, 199.	0.1	16
87	Kinetic constraints on illitization reactions and the effects of organic diagenesis in sandstone/shale sequences. <i>Applied Geochemistry</i> , 1997, 12, 23-35.	1.4	109
88	Dissolution rate of a basalt glass in silica-rich solutions: Implications for long-term alteration. <i>Geochimica Et Cosmochimica Acta</i> , 1994, 58, 4875-4886.	1.6	107
89	Dissolution rate of quartz in lead and sodium electrolyte solutions between 25 and 300°C: Effect of the nature of surface complexes and reaction affinity. <i>Geochimica Et Cosmochimica Acta</i> , 1994, 58, 541-551.	1.6	197
90	Distribution of trace elements between clays and zeolites and aqueous solutions similar to sea water. <i>Applied Geochemistry</i> , 1992, 7, 193-203.	1.4	4

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91	Chemical parameters controlling the propylitic and argillic alteration process. European Journal of Mineralogy, 1992, 4, 1439-1456.	0.4	18
92	Dissolution-precipitation processes induced by hot water in a fractured granite Part 1: Wall-rock alteration and vein deposition processes. European Journal of Mineralogy, 1992, 4, 1457-1476.	0.4	24
93	Dissolution-precipitation processes induced by hot water in a fractured granite. Part 2: Modelling of water-rock interaction. European Journal of Mineralogy, 1992, 4, 1477-1488.	0.4	12
94	Behavior of Li, Rb and Cs during basalt glass and olivine dissolution and chlorite, smectite and zeolite precipitation from seawater: Experimental investigations and modelization between 50Å° and 300Å°C. Chemical Geology, 1988, 71, 297-312.	1.4	126
95	Fundamental processes controlling the first stage of alteration of a basalt glass by seawater: an experimental study between 200Å° and 320Å°C. Earth and Planetary Science Letters, 1987, 84, 431-445.	1.8	101
96	Transient liquid water and water activity at Gale crater on Mars. , 0, .		2