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	A Habitable Fluvio-Lacustrine Environment at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1242777.	6.0	687
2	Mineralogy of a Mudstone at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1243480.	6.0	508
3	Sorption of lanthanides on smectite and kaolinite. Chemical Geology, 2002, 182, 57-68.	1.4	392
4	The ChemCam Instrument Suite on the Mars Science Laboratory (MSL) Rover: Science Objectives and Mast Unit Description. Space Science Reviews, 2012, 170, 95-166.	3.7	372
5	Volatile, Isotope, and Organic Analysis of Martian Fines with the Mars Curiosity Rover. Science, 2013, 341, 1238937.	6.0	367
6	X-ray Diffraction Results from Mars Science Laboratory: Mineralogy of Rocknest at Gale Crater. Science, 2013, 341, 1238932.	6.0	327
7	Abundance and Isotopic Composition of Gases in the Martian Atmosphere from the Curiosity Rover. Science, 2013, 341, 263-266.	6.0	327
8	Martian Fluvial Conglomerates at Gale Crater. Science, 2013, 340, 1068-1072.	6.0	326
9	Volatile and Organic Compositions of Sedimentary Rocks in Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1245267.	6.0	323
10	Curiosity at Gale Crater, Mars: Characterization and Analysis of the Rocknest Sand Shadow. Science, 2013, 341, 1239505.	6.0	280
11	Transient liquid water and water activity at Gale crater on Mars. Nature Geoscience, 2015, 8, 357-361.	5.4	277
12	Authigenic kaolin and illitic minerals during burial diagenesis of sandstones: a review. Clay Minerals, 2002, 37, 1-22.	0.2	265
13	Elemental Geochemistry of Sedimentary Rocks at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1244734.	6.0	246
14	Isotope Ratios of H, C, and O in CO ₂ and H ₂ O of the Martian Atmosphere. Science, 2013, 341, 260-263.	6.0	241
15	Kaolinite and smectite dissolution rate in high molar KOH solutions at 35Â° and 80Â°C. Applied Geochemistry, 1998, 13, 905-916.	1.4	217
16	Soil Diversity and Hydration as Observed by ChemCam at Gale Crater, Mars. Science, 2013, 341, 1238670.	6.0	215
17	Dissolution rate of quartz in lead and sodium electrolyte solutions between 25 and 300Â°C: Effect of the nature of surface complexes and reaction affinity. Geochimica Et Cosmochimica Acta, 1994, 58, 541-551.	1.6	197
18	Europium retention onto clay minerals from 25 to 150Â°C: Experimental measurements, spectroscopic features and sorption modelling. Geochimica Et Cosmochimica Acta, 2006, 70, 4563-4578.	1.6	172

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19	Evidence for indigenous nitrogen in sedimentary and aeolian deposits from the Curiosity rover investigations at Gale crater, Mars. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 4245-4250.	3.3	172
20	Kaolinite-to-dickite reaction in sandstone reservoirs. Clay Minerals, 1998, 33, 297-316.	0.2	148
21	The Petrochemistry of Jake_M: A Martian Mugearite. Science, 2013, 341, 1239463.	6.0	134
22	ChemCam activities and discoveries during the nominal mission of the Mars Science Laboratory in Gale crater, Mars. Journal of Analytical Atomic Spectrometry, 2016, 31, 863-889.	1.6	134
23	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 50Â° and 300Â°C. Chemical Geology, 1988, 71, 297-312.	1.4	126
24	Geochemistry of Carbonates on Mars: Implications for Climate History and Nature of Aqueous Environments. Space Science Reviews, 2013, 174, 301-328.	3.7	126
25	Igneous mineralogy at Bradbury Rise: The first ChemCam campaign at Gale crater. Journal of Geophysical Research E: Planets, 2014, 119, 30-46.	1.5	114
26	Kinetic constraints on illitization reactions and the effects of organic diagenesis in sandstone/shale sequences. Applied Geochemistry, 1997, 12, 23-35.	1.4	109
27	Geochemical Consequences of Widespread Clay Mineral Formation in Marsâ€™ Ancient Crust. Space Science Reviews, 2013, 174, 329-364.	3.7	108
28	Dissolution rate of a basalt glass in silica-rich solutions: Implications for long-term alteration. Geochimica Et Cosmochimica Acta, 1994, 58, 4875-4886.	1.6	107
29	Surface chemistry of kaolinite and Na-montmorillonite in aqueous electrolyte solutions at 25 and 60Â°C: Experimental and modeling study. Geochimica Et Cosmochimica Acta, 2006, 70, 4579-4599.	1.6	103
30	Geochemical Reservoirs and Timing of Sulfur Cycling on Mars. Space Science Reviews, 2013, 174, 251-300.	3.7	103
31	Fundamental processes controlling the first stage of alteration of a basalt glass by seawater: an experimental study between 200Â° and 320Â°C. Earth and Planetary Science Letters, 1987, 84, 431-445.	1.8	101
32	Kaolinite transformation in high molar KOH solutions. Applied Geochemistry, 1998, 13, 619-629.	1.4	96
33	Experimental sorption of Ni2+, Cs+ and Ln3+ onto a montmorillonite up to 150Â°C. Geochimica Et Cosmochimica Acta, 2005, 69, 4937-4948.	1.6	94
34	Kinetics of pyrite to pyrrhotite reduction by hydrogen in calcite buffered solutions between 90 and 180Â°C: Implications for nuclear waste disposal. Geochimica Et Cosmochimica Acta, 2010, 74, 2894-2914.	1.6	84
35	Sulphide mineral reactions in clay-rich rock induced by high hydrogen pressure. Application to disturbed or natural settings up to 250 Â°C and 30 bar. Chemical Geology, 2013, 351, 217-228.	1.4	75
36	Diagenesis and clay mineral formation at Gale Crater, Mars. Journal of Geophysical Research E: Planets, 2015, 120, 1-19.	1.5	72

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37	Chemistry of fractureâ€filling raised ridges in Yellowknife Bay, Gale Crater: Window into past aqueous activity and habitability on Mars. Journal of Geophysical Research E: Planets, 2014, 119, 2398-2415.	1.5	70
38	Compositions of coarse and fine particles in martian soils at gale: A window into the production of soils. Icarus, 2015, 249, 22-42.	1.1	64
39	Initial and long-term dissolution rates of aluminosilicate glasses enriched with Ti, Zr and Nd. Chemical Geology, 1999, 160, 39-62.	1.4	63
40	Experimental reduction of aqueous sulphate by hydrogen under hydrothermal conditions: Implication for the nuclear waste storage. Geochimica Et Cosmochimica Acta, 2009, 73, 4824-4835.	1.6	60
41	Mechanism and kinetics of magnetite oxidation under hydrothermal conditions. RSC Advances, 2019, 9, 33633-33642.	1.7	54
42	How element translocation by plants may stabilize illitic clays in the surface of temperate soils. Geoderma, 2009, 151, 22-30.	2.3	53
43	Chemical variations in Yellowknife Bay formation sedimentary rocks analyzed by ChemCam on board the Curiosity rover on Mars. Journal of Geophysical Research E: Planets, 2015, 120, 452-482.	1.5	51
44	The solubility of CO2+H2S mixtures in water and 2M NaCl at 120Â°C and pressures up to 35MPa. International Journal of Greenhouse Gas Control, 2012, 10, 123-133.	2.3	48
45	Chemistry and texture of the rocks at Rocknest, Gale Crater: Evidence for sedimentary origin and diagenetic alteration. Journal of Geophysical Research E: Planets, 2014, 119, 2109-2131.	1.5	48
46	Diagenetic-type reactions related to hydrothermal alteration in the Soultz-sous-ForÃªts granite, France. European Journal of Mineralogy, 1999, 11, 731-742.	0.4	46
47	Evidence in favor of small amounts of ephemeral and transient water during alteration at Meridiani Planum, Mars. American Mineralogist, 2009, 94, 1279-1282.	0.9	45
48	Correcting for variable laser-target distances of laser-induced breakdown spectroscopy measurements with ChemCam using emission lines of Martian dust spectra. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2014, 96, 51-60.	1.5	45
49	Direct measurement of CO2 solubility and pH in NaCl hydrothermal solutions by combining in-situ potentiometry and Raman spectroscopy up to 280 Â°C and 150 bar. Geochimica Et Cosmochimica Acta, 2016, 177, 238-253.	1.6	42
50	Rare earth element sorption by basaltic rock: Experimental data and modeling results using the â€œGeneralised Composite approachâ€• Geochimica Et Cosmochimica Acta, 2008, 72, 1043-1056.	1.6	40
51	Martian Eolian Dust Probed by ChemCam. Geophysical Research Letters, 2018, 45, 10,968.	1.5	40
52	Experimental exploration of volcanic rocks-atmosphere interaction under Venus surface conditions. Icarus, 2019, 329, 8-23.	1.1	40
53	The role of Sâ‚‚Oâ‚ƒ ion in thermochemical sulphate reduction: Geological and geochemical implications. Earth and Planetary Science Letters, 2014, 396, 190-200.	1.8	39
54	Potassium sources and illitization in Texas Gulf Coast shale diagenesis. Journal of Sedimentary Research, 1999, 69, 151-157.	0.8	35

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55	Solubility study of Ti,Zr-based ceramics designed to immobilize long-lived radionuclides. American Mineralogist, 2001, 86, 871-880.	0.9	34
56	An experimental alteration of montmorillonite to a di + trioctahedral smectite assemblage at 100 and 200Â°C. Clay Minerals, 2001, 36, 211-225.	0.2	29
57	Calcium, Na, K and Mg Concentrations in Seawater by Inductively Coupled Plasmaâ€Atomic Emission Spectrometry: Applications to IAPSO Seawater Reference Material, Hydrothermal Fluids and Synthetic Seawater Solutions. Geostandards and Geoanalytical Research, 2014, 38, 355-362.	1.7	29
58	How tillite weathering during the snowball Earth aftermath induced cap carbonate deposition. Geology, 2012, 40, 1027-1030.	2.0	27
59	Application of distance correction to ChemCam laser-induced breakdown spectroscopy measurements. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2016, 120, 19-29.	1.5	27
60	Experimental dissolution of sanidine under hydrothermal conditions: Mechanism and rate. Numerische Mathematik, 2002, 302, 663-685.	0.7	26
61	Microscopic reversibility of Sm and Yb sorption onto smectite and kaolinite. Geochimica Et Cosmochimica Acta, 2003, 67, 2515-2527.	1.6	26
62	Expandability- layer stacking relationship during experimental alteration of a Wyoming bentonite in pH 13.5 solutions at 35 and 60Â°C. Clay Minerals, 2001, 36, 197-210.	0.2	25
63	Overview of Mars surface geochemical diversity through Alpha Particle Xâ€Ray Spectrometer data multidimensional analysis: First attempt at modeling rock alteration. Journal of Geophysical Research, 2008, 113, .	3.3	25
64	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
65	Origin of cap carbonates: An experimental approach. Palaeogeography, Palaeoclimatology, Palaeoecology, 2013, 392, 524-533.	1.0	23
66	Geochemistry of the Bagneres-de-Bigorre thermal waters from the North Pyrenean Zone (France). Geofluids, 2002, 2, 25-40.	0.3	21
67	Petrography and chemistry of SiO2 filling phases in the amethyst geodes from the Serra Geral Formation deposit, Rio Grande do Sul, Brazil. Journal of South American Earth Sciences, 2010, 29, 751-760.	0.6	21
68	Abiotic nitrate reduction induced by carbon steel and hydrogen: Implications for environmental processes in waste repositories. Applied Geochemistry, 2013, 28, 155-163.	1.4	20
69	Organic Control of Dioctahedral and Trioctahedral Clay Formation in an Alkaline Soil System in the Pantanal Wetland of NhecolÃ¢ndia, Brazil. PLoS ONE, 2016, 11, e0159972.	1.1	20
70	Chemical parameters controlling the propylitic and argillic alteration process. European Journal of Mineralogy, 1992, 4, 1439-1456.	0.4	18
71	Chemical Durability of Aluminosilicate Glasses Containing Low Solubility Chemical Elements. Materials Research Society Symposia Proceedings, 1997, 506, 199.	0.1	16
72	Modeling of continental weathering under high-CO₂atmospheres during Precambrian times. Geochemistry, Geophysics, Geosystems, 2011, 12, n/a-n/a.	1.0	16

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73	Hydrothermal alteration in basalts from VargeÃ£o impact structure, south Brazil, and implications for recognition of impact-induced hydrothermalism on Mars. Icarus, 2015, 252, 347-365.	1.1	16
74	Clay mineral formation on Mars: Chemical constraints and possible contribution of basalt out-gassing. Planetary and Space Science, 2014, 95, 25-32.	0.9	12
75	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
76	Laser-Induced Breakdown Spectroscopy (LIBS) characterization of granular soils: Implications for ChemCam analyses at Gale crater, Mars. Icarus, 2021, 365, 114481.	1.1	11
77	First coupled Sr and Pb isotopic measurements in volcanic gas condensates and groundwaters of Vulcano Island (Italy). Geochemistry, Geophysics, Geosystems, 2005, 6, n/a-n/a.	1.0	9
78	Influence of temperature and reducing conditions on the sorption of sulfate on magnetite. Journal of Colloid and Interface Science, 2010, 352, 476-482.	5.0	9
79	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. Applied Geochemistry, 2013, 35, 279-288.	1.4	9
80	Tracing the Origin and Evolution of Geochemical Characteristics of Waters from the Candiota Coal Mine Area (Southern Brazil): Part I. Mine Water and the Environment, 2016, 35, 29-43.	0.9	8
81	Geochemical modeling of gold precipitation conditions in the Bloco do ButiÃ¡ Mine, Lavras do Sul/Brazil. Anais Da Academia Brasileira De Ciencias, 2005, 77, 717-728.	0.3	7
82	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. Acta Crystallographica Section B: Structural Science, Crystal Engineering and Materials, 2018, 74, 618-627.	0.5	7
83	A new and fast method to determine mixing and conductive cooling of thermal waters in carbonate-evaporite environments. Geothermics, 2006, 35, 285-301.	1.5	5
84	Distribution of trace elements between clays and zeolites and aqueous solutions similar to sea water. Applied Geochemistry, 1992, 7, 193-203.	1.4	4
85	Potentiometry up to 275Â°C: Example of pH titrations of cobalt ferrite particles. Journal of Colloid and Interface Science, 2014, 430, 12-17.	5.0	4
86	Stability of Hydrazine, Morpholine and Ethanolamine at 275ÂÂ°C and In Situ Measurement of Redox and Acidâ€“Base Properties. Journal of Solution Chemistry, 2015, 44, 1900-1919.	0.6	3
87	Clay minerals related to the late magmatic activity of the Piton des Neiges (RÃ©union Island): consequence for the primitive crusts. Clay Minerals, 2018, 53, 675-690.	0.2	3
88	Geochemical Reservoirs and Timing of Sulfur Cycling on Mars. Space Sciences Series of ISSI, 2012, , 251-300.	0.0	2
89	Transient liquid water and water activity at Gale crater on Mars. , 0, .		2
90	The ChemCam Instrument Suite on the Mars Science Laboratory (MSL) Rover: Science Objectives and Mast Unit Description. , 2012, , 95-166.		2

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91	Geochemistry of Carbonates on Mars: Implications for Climate History and Nature of Aqueous Environments. Space Sciences Series of ISSI, 2012, , 301-328.	0.0	2
92	Electrochemical deposition of magnetite, copper, and mixed magnetiteâ€“copper films on nickel-based superalloy substrates. Journal of Applied Electrochemistry, 2017, 47, 931-939.	1.5	1
93	Mechanism and kinetics of hematite reduction under typical PWR secondary circuit condition. Journal of Nuclear Materials, 2020, 533, 152132.	1.3	1
94	AltÃ©ration en prÃ©sence d'argile humide Ã 70Â°C de cÃ©ramiques Ã base de Ti et Zr, de type Synroc. Comptes Rendus De L'AcadÃ©mie Des Sciences Earth & Planetary Sciences SÃ©rie II, Sciences De La Terre Et Des PlanÃ¨tes =, 1998, 327, 827-831.	0.2	0
95	Chlorites: occurrence, genesis and crystal chemistry â€“ introduction. Clay Minerals, 2003, 38, 279-280.	0.2	0
96	Geochemical Consequences of Widespread Clay Mineral Formation in Marsâ€™ Ancient Crust. Space Sciences Series of ISSI, 2012, , 329-364.	0.0	0