

Gilles Berger

List of Publications by Year in descending order

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96
papers

9,185
citations

50276

46
h-index

43889

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. | 2.5 | 11 |
| 2 | Mechanism and kinetics of hematite reduction under typical PWR secondary circuit condition. <i>Journal of Nuclear Materials</i> , 2020, 533, 152132. | 2.7 | 1 |
| 3 | Experimental exploration of volcanic rocks-atmosphere interaction under Venus surface conditions. <i>Icarus</i> , 2019, 329, 8-23. | 2.5 | 40 |
| 4 | Mechanism and kinetics of magnetite oxidation under hydrothermal conditions. <i>RSC Advances</i> , 2019, 9, 33633-33642. | 3.6 | 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. | 0.6 | 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. | 1.1 | 7 |
| 7 | Martian Eolian Dust Probed by ChemCam. <i>Geophysical Research Letters</i> , 2018, 45, 10,968. | 4.0 | 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. | 2.9 | 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. | 2.5 | 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. | 2.9 | 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. | 2.0 | 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. | 3.0 | 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. | 3.9 | 42 |
| 14 | Diagenesis and clay mineral formation at Gale Crater, Mars. <i>Journal of Geophysical Research E: Planets</i> , 2015, 120, 1-19. | 3.6 | 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. | 3.6 | 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. | 2.5 | 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. | 7.1 | 172 |
| 18 | Transient liquid water and water activity at Gale crater on Mars. <i>Nature Geoscience</i> , 2015, 8, 357-361. | 12.9 | 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. | 1.2 | 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. | 2.5 | 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. | 3.1 | 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. | 2.9 | 45 |
| 23 | Volatile and Organic Compositions of Sedimentary Rocks in Yellowknife Bay, Gale Crater, Mars. <i>Science</i> , 2014, 343, 1245267. | 12.6 | 323 |
| 24 | A Habitable Fluvio-Lacustrine Environment at Yellowknife Bay, Gale Crater, Mars. <i>Science</i> , 2014, 343, 1242777. | 12.6 | 687 |
| 25 | Mineralogy of a Mudstone at Yellowknife Bay, Gale Crater, Mars. <i>Science</i> , 2014, 343, 1243480. | 12.6 | 508 |
| 26 | Elemental Geochemistry of Sedimentary Rocks at Yellowknife Bay, Gale Crater, Mars. <i>Science</i> , 2014, 343, 1244734. | 12.6 | 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. | 1.7 | 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. | 4.4 | 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. | 9.4 | 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. | 3.6 | 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. | 3.6 | 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. | 3.6 | 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. | 3.0 | 20 |
| 34 | X-ray Diffraction Results from Mars Science Laboratory: Mineralogy of Rocknest at Gale Crater. <i>Science</i> , 2013, 341, 1238932. | 12.6 | 327 |
| 35 | Curiosity at Gale Crater, Mars: Characterization and Analysis of the Rocknest Sand Shadow. <i>Science</i> , 2013, 341, 1239505. | 12.6 | 280 |
| 36 | Abundance and Isotopic Composition of Gases in the Martian Atmosphere from the Curiosity Rover. <i>Science</i> , 2013, 341, 263-266. | 12.6 | 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. | 12.6 | 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. | 12.6 | 241 |
| 39 | Geochemical Consequences of Widespread Clay Mineral Formation in Mars's Ancient Crust. <i>Space Science Reviews</i> , 2013, 174, 329-364. | 8.1 | 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. | 8.1 | 126 |
| 41 | Geochemical Reservoirs and Timing of Sulfur Cycling on Mars. <i>Space Science Reviews</i> , 2013, 174, 251-300. | 8.1 | 103 |
| 42 | Origin of cap carbonates: An experimental approach. <i>Palaeogeography, Palaeoclimatology, Palaeoecology</i> , 2013, 392, 524-533. | 2.3 | 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. | 3.3 | 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. | 3.0 | 9 |
| 45 | Martian Fluvial Conglomerates at Gale Crater. <i>Science</i> , 2013, 340, 1068-1072. | 12.6 | 326 |
| 46 | The Petrochemistry of Jake_M: A Martian Mugearite. <i>Science</i> , 2013, 341, 1239463. | 12.6 | 134 |
| 47 | Soil Diversity and Hydration as Observed by ChemCam at Gale Crater, Mars. <i>Science</i> , 2013, 341, 1238670. | 12.6 | 215 |
| 48 | How tillite weathering during the snowball Earth aftermath induced cap carbonate deposition. <i>Geology</i> , 2012, 40, 1027-1030. | 4.4 | 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. | 8.1 | 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. | 4.6 | 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. | 2.5 | 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. | 9.4 | 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. | 1.4 | 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. | 3.9 | 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. | 1.9 | 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. | 3.9 | 60 |
| 61 | How element translocation by plants may stabilize illitic clays in the surface of temperate soils. <i>Geoderma</i> , 2009, 151, 22-30. | 5.1 | 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. | 3.9 | 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. | 3.9 | 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. | 3.9 | 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. | 3.4 | 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. | 0.8 | 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. | 3.9 | 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. | 2.5 | 9 |
| 70 | Chlorites: occurrence, genesis and crystal chemistry " introduction. <i>Clay Minerals</i> , 2003, 38, 279-280. | 0.6 | 0 |
| 71 | Microscopic reversibility of Sm and Yb sorption onto smectite and kaolinite. <i>Geochimica Et Cosmochimica Acta</i> , 2003, 67, 2515-2527. | 3.9 | 26 |
| 72 | Experimental dissolution of sanidine under hydrothermal conditions: Mechanism and rate. <i>Numerische Mathematik</i> , 2002, 302, 663-685. | 1.4 | 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. | 0.6 | 265 |
| 74 | Sorption of lanthanides on smectite and kaolinite. <i>Chemical Geology</i> , 2002, 182, 57-68. | 3.3 | 392 |
| 75 | Geochemistry of the Bagnères-de-Bigorre thermal waters from the North Pyrenean Zone (France). <i>Geofluids</i> , 2002, 2, 25-40. | 0.7 | 21 |
| 76 | Solubility study of Ti,Zr-based ceramics designed to immobilize long-lived radionuclides. <i>American Mineralogist</i> , 2001, 86, 871-880. | 1.9 | 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. | 0.6 | 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. | 0.6 | 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. | 3.3 | 63 |
| 80 | Potassium sources and illitization in Texas Gulf Coast shale diagenesis. <i>Journal of Sedimentary Research</i> , 1999, 69, 151-157. | 1.6 | 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. | 1.3 | 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. | 3.0 | 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. | 3.0 | 217 |
| 85 | Kaolinite-to-dickite reaction in sandstone reservoirs. <i>Clay Minerals</i> , 1998, 33, 297-316. | 0.6 | 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. | 3.0 | 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. | 3.9 | 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. | 3.9 | 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. | 3.0 | 4 |

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|----|--|-----|-----------|
| 91 | Chemical parameters controlling the propylitic and argillic alteration process. European Journal of Mineralogy, 1992, 4, 1439-1456. | 1.3 | 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. | 1.3 | 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. | 1.3 | 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. | 3.3 | 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. | 4.4 | 101 |
| 96 | Transient liquid water and water activity at Gale crater on Mars. , 0, . | | 2 |