Agnes Cousin

List of Publications by Year
in descending order

80 papers	8,575 citations	47006 47 h-index	62596 80 g-index
85 all docs	85 docs citations	85 times ranked	3764 citing authors

#	Article	IF	Citations
1	The Curiosity Rover's Exploration of Glen Torridon, Gale Crater, Mars: An Overview of the Campaign and Scientific Results. Journal of Geophysical Research E: Planets, 2023, 128, .	3.6	27
2	The SuperCam infrared spectrometer for the perseverance rover of the Mars2020 mission. Icarus, 2022, 373, 114773.	2.5	19
3	SuperCam calibration targets on board the perseverance rover: Fabrication and quantitative characterization. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2022, 188, 106341.	2.9	20
4	Post-landing major element quantification using SuperCam laser induced breakdown spectroscopy. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2022, 188, 106347.	2.9	40
5	Bedrock Geochemistry and Alteration History of the Clayâ€Bearing Glen Torridon Region of Gale Crater, Mars. Journal of Geophysical Research E: Planets, 2022, 127, .	3.6	17
6	An Insight Into Ancient Aeolian Processes and Postâ€Noachian Aqueous Alteration in Gale Crater, Mars, Using ChemCam Geochemical Data From the Greenheugh Capping Unit. Journal of Geophysical Research E: Planets, 2022, 127, .	3.6	11
7	Overview of the Morphology and Chemistry of Diagenetic Features in the Clayâ€Rich Glen Torridon Unit of Gale Crater, Mars. Journal of Geophysical Research E: Planets, 2022, 127, .	3.6	17
8	Homogeneity assessment of the SuperCam calibration targets onboard rover perseverance. Analytica Chimica Acta, 2022, 1209, 339837.	5.4	9
9	From Lake to River: Documenting an Environmental Transition Across the Jura/Knockfarril Hill Members Boundary in the Glen Torridon Region of Gale Crater (Mars). Journal of Geophysical Research E: Planets, 2022, 127, .	3.6	19
10	The SuperCam Instrument Suite on the Mars 2020 Rover: Science Objectives and Mast-Unit Description. Space Science Reviews, 2021, 217, 1.	8.1	131
11	Quantification of manganese for ChemCam Mars and laboratory spectra using a multivariate model. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2021, 181, 106223.	2.9	16
12	Improving ChemCam LIBS long-distance elemental compositions using empirical abundance trends. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2021, 182, 106247.	2.9	16
13	Laser-Induced Breakdown Spectroscopy (LIBS) characterization of granular soils: Implications for ChemCam analyses at Gale crater, Mars. Icarus, 2021, 365, 114481.	2.5	11
14	The SuperCam Instrument Suite on the NASA Mars 2020 Rover: Body Unit and Combined System Tests. Space Science Reviews, 2021, 217, 4.	8.1	160
15	Clustering Supported Classification of ChemCam Data From Gale Crater, Mars. Earth and Space Science, 2021, 8, .	2.6	7
16	Analyses of Highâ€Iron Sedimentary Bedrock and Diagenetic Features Observed With ChemCam at Vera Rubin Ridge, Gale Crater, Mars: Calibration and Characterization. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006314.	3.6	30
17	Iron Mobility During Diagenesis at Vera Rubin Ridge, Gale Crater, Mars. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006299.	3.6	30
18	Boron and Lithium in Calcium Sulfate Veins: Tracking Precipitation of Diagenetic Materials in Vera Rubin Ridge, Gale Crater. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006301.	3.6	8

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19	SuperCam Calibration Targets: Design and Development. Space Science Reviews, 2020, 216, 138.	8.1	44
20	Origin and composition of three heterolithic boulder- and cobble-bearing deposits overlying the Murray and Stimson formations, Gale Crater, Mars. Icarus, 2020, 350, 113897.	2.5	11
21	Disambiguating the soils of Mars. Planetary and Space Science, 2020, 186, 104922.	1.7	16
22	Mars Science Laboratory Observations of Chloride Salts in Gale Crater, Mars. Geophysical Research Letters, 2019, 46, 10754-10763.	4.0	52
23	Listening to laser sparks: a link between Laser-Induced Breakdown Spectroscopy, acoustic measurements and crater morphology. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2019, 153, 50-60.	2.9	57
24	Copper enrichments in the Kimberley formation in Gale crater, Mars: Evidence for a Cu deposit at the source. Icarus, 2019, 321, 736-751.	2.5	23
25	Variable selection in laser-induced breakdown spectroscopy assisted by multivariate analysis: An alternative to multi-peak fitting. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2019, 152, 6-13.	2.9	7
26	Chemical variability in mineralized veins observed by ChemCam on the lower slopes of Mount Sharp in Gale crater, Mars. Icarus, 2018, 311, 69-86.	2.5	34
27	Desiccation cracks provide evidence of lake drying on Mars, Sutton Island member, Murray formation, Gale Crater. Geology, 2018, 46, 515-518.	4.4	71
28	Martian Eolian Dust Probed by ChemCam. Geophysical Research Letters, 2018, 45, 10,968.	4.0	40
29	Spark plasma sintering preparation of reference targets for field spectroscopy on Mars. Journal of Raman Spectroscopy, 2018, 49, 1419-1425.	2.5	11
30	Recalibration of the Mars Science Laboratory ChemCam instrument with an expanded geochemical database. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2017, 129, 64-85.	2.9	137
31	Quantification of water content by laser induced breakdown spectroscopy on Mars. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2017, 130, 82-100.	2.9	65
32	Classification of igneous rocks analyzed by ChemCam at Gale crater, Mars. Icarus, 2017, 288, 265-283.	2.5	96
33	Diagenetic silica enrichment and lateâ€stage groundwater activity in Gale crater, Mars. Geophysical Research Letters, 2017, 44, 4716-4724.	4.0	87
34	Chemistry, mineralogy, and grain properties at Namib and High dunes, Bagnold dune field, Gale crater, Mars: A synthesis of Curiosity rover observations. Journal of Geophysical Research E: Planets, 2017, 122, 2510-2543.	3.6	95
35	Alkali trace elements in Gale crater, Mars, with ChemCam: Calibration update and geological implications. Journal of Geophysical Research E: Planets, 2017, 122, 650-679.	3.6	48
36	Characterization of LIBS emission lines for the identification of chlorides, carbonates, and sulfates in salt/basalt mixtures for the application to MSL ChemCam data. Journal of Geophysical Research E: Planets, 2017, 122, 744-770.	3.6	57

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37	Roughness effects on the hydrogen signal in laser-induced breakdown spectroscopy. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2017, 137, 13-22.	2.9	34
38	Geochemistry of the Bagnold dune field as observed by ChemCam and comparison with other aeolian deposits at Gale Crater. Journal of Geophysical Research E: Planets, 2017, 122, 2144-2162.	3.6	46
39	Classification scheme for sedimentary and igneous rocks in Gale crater, Mars. Icarus, 2017, 284, 1-17.	2.5	46
40	Chemistry of diagenetic features analyzed by ChemCam at Pahrump Hills, Gale crater, Mars. Icarus, 2017, 281, 121-136.	2.5	90
41	Oxidation of manganese in an ancient aquifer, Kimberley formation, Gale crater, Mars. Geophysical Research Letters, 2016, 43, 7398-7407.	4.0	110
42	Observation of >â€‰5â€‰wt % zinc at the Kimberley outcrop, Gale crater, Mars. Journal of Geophysical Research E: Planets, 2016, 121, 338-352.	3.6	32
43	Composition of conglomerates analyzed by the Curiosity rover: Implications for Gale Crater crust and sediment sources. Journal of Geophysical Research E: Planets, 2016, 121, 353-387.	3.6	53
44	Application of distance correction to ChemCam laser-induced breakdown spectroscopy measurements. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2016, 120, 19-29.	2.9	27
45	Magmatic complexity on early Mars as seen through a combination of orbital, in-situ and meteorite data. Lithos, 2016, 254-255, 36-52.	1.4	66
46	Hydration state of calcium sulfates in Gale crater, Mars: Identification of bassanite veins. Earth and Planetary Science Letters, 2016, 452, 197-205.	4.4	103
47	The potassic sedimentary rocks in Gale Crater, Mars, as seen by ChemCam on board <i>Curiosity</i>. Journal of Geophysical Research E: Planets, 2016, 121, 784-804.	3.6	67
48	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.	3.0	134
49	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.	3.6	51
50	Hydrogen detection with ChemCam at Gale crater. Icarus, 2015, 249, 43-61.	2.5	58
51	First detection of fluorine on Mars: Implications for Gale Crater's geochemistry. Geophysical Research Letters, 2015, 42, 1020-1028.	4.0	107
52	In situ evidence for continental crust on early Mars. Nature Geoscience, 2015, 8, 605-609.	12.9	233
53	Evidence for indigenous nitrogen in sedimentary and aeolian deposits from the <i>Curiosity</i> rover investigations at Gale crater, Mars. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 4245-4250.	7.1	172
54	Compositions of coarse and fine particles in martian soils at gale: A window into the production of soils. Icarus, 2015, 249, 22-42.	2.5	64

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55	Understanding the signature of rock coatings in laser-induced breakdown spectroscopy data. Icarus, 2015, 249, 62-73.	2.5	49
56	High manganese concentrations in rocks at Gale crater, Mars. Geophysical Research Letters, 2014, 41, 5755-5763.	4.0	81
57	Trace element geochemistry (Li, Ba, Sr, and Rb) using <i>Curiosity</i>'s ChemCam: Early results for Gale crater from Bradbury Landing Site to Rocknest. Journal of Geophysical Research E: Planets, 2014, 119, 255-285.	3.6	86
58	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.	2.9	45
59	Volatile and Organic Compositions of Sedimentary Rocks in Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1245267.	12.6	323
60	A Habitable Fluvio-Lacustrine Environment at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1242777.	12.6	687
61	Mineralogy of a Mudstone at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1243480.	12.6	508
62	Elemental Geochemistry of Sedimentary Rocks at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1244734.	12.6	246
63	Calcium sulfate veins characterized by ChemCam/Curiosity at Gale crater, Mars. Journal of Geophysical Research E: Planets, 2014, 119, 1991-2016.	3.6	214
64	In situ calibration using univariate analyses based on the onboard ChemCam targets: first prediction of Martian rock and soil compositions. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2014, 99, 34-51.	2.9	45
65	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.	3.6	48
66	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.	3.6	70
67	Constraints on abundance, composition, and nature of Xâ€ray amorphous components of soils and rocks at Gale crater, Mars. Journal of Geophysical Research E: Planets, 2014, 119, 2640-2657.	3.6	73
68	Igneous mineralogy at Bradbury Rise: The first ChemCam campaign at Gale crater. Journal of Geophysical Research E: Planets, 2014, 119, 30-46.	3.6	114
69	Pre-flight calibration and initial data processing for the ChemCam laser-induced breakdown spectroscopy instrument on the Mars Science Laboratory rover. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2013, 82, 1-27.	2.9	258
70	Independent component analysis classification of laser induced breakdown spectroscopy spectra. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2013, 86, 31-41.	2.9	66
71	X-ray Diffraction Results from Mars Science Laboratory: Mineralogy of Rocknest at Gale Crater. Science, 2013, 341, 1238932.	12.6	327
72	Curiosity at Gale Crater, Mars: Characterization and Analysis of the Rocknest Sand Shadow. Science, 2013, 341, 1239505.	12.6	280

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73	Volatile, Isotope, and Organic Analysis of Martian Fines with the Mars Curiosity Rover. Science, 2013, 341, 1238937.	12.6	367
74	Martian Fluvial Conglomerates at Gale Crater. Science, 2013, 340, 1068-1072.	12.6	326
75	The Petrochemistry of Jake_M: A Martian Mugearite. Science, 2013, 341, 1239463.	12.6	134
76	Soil Diversity and Hydration as Observed by ChemCam at Gale Crater, Mars. Science, 2013, 341, 1238670.	12.6	215
77	The ChemCam Instrument Suite on the Mars Science Laboratory (MSL) Rover: Body Unit and Combined System Tests. Space Science Reviews, 2012, 170, 167-227.	8.1	429
78	The ChemCam Instrument Suite on the Mars Science Laboratory (MSL) Rover: Science Objectives and Mast Unit Description. Space Science Reviews, 2012, 170, 95-166.	8.1	372
79	Laser induced breakdown spectroscopy library for the Martian environment. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2011, 66, 805-814.	2.9	86
80	Onboard calibration igneous targets for the Mars Science Laboratory Curiosity rover and the Chemistry Camera laser induced breakdown spectroscopy instrument. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2011, 66, 280-289.	2.9	90