Agnes Cousin

List of Publications by Year
in descending order

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80	8,575	47006 47	62596 80
papers	citations	h-index	g-index

85	85	85	3764
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	A Habitable Fluvio-Lacustrine Environment at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1242777.	12.6	687
2	Mineralogy of a Mudstone at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1243480.	12.6	508
3	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
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.	8.1	372
5	Volatile, Isotope, and Organic Analysis of Martian Fines with the Mars Curiosity Rover. Science, 2013, 341, 1238937.	12.6	367
6	X-ray Diffraction Results from Mars Science Laboratory: Mineralogy of Rocknest at Gale Crater. Science, 2013, 341, 1238932.	12.6	327
7	Martian Fluvial Conglomerates at Gale Crater. Science, 2013, 340, 1068-1072.	12.6	326
8	Volatile and Organic Compositions of Sedimentary Rocks in Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1245267.	12.6	323
9	Curiosity at Gale Crater, Mars: Characterization and Analysis of the Rocknest Sand Shadow. Science, 2013, 341, 1239505.	12.6	280
10	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
11	Elemental Geochemistry of Sedimentary Rocks at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1244734.	12.6	246
12	In situ evidence for continental crust on early Mars. Nature Geoscience, 2015, 8, 605-609.	12.9	233
13	Soil Diversity and Hydration as Observed by ChemCam at Gale Crater, Mars. Science, 2013, 341, 1238670.	12.6	215
14	Calcium sulfate veins characterized by ChemCam/Curiosity at Gale crater, Mars. Journal of Geophysical Research E: Planets, 2014, 119, 1991-2016.	3.6	214
15	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.	7.1	172
16	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
17	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
18	The Petrochemistry of Jake_M: A Martian Mugearite. Science, 2013, 341, 1239463.	12.6	134

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19	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
20	The SuperCam Instrument Suite on the Mars 2020 Rover: Science Objectives and Mast-Unit Description. Space Science Reviews, 2021, 217, 1.	8.1	131
21	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
22	Oxidation of manganese in an ancient aquifer, Kimberley formation, Gale crater, Mars. Geophysical Research Letters, 2016, 43, 7398-7407.	4.0	110
23	First detection of fluorine on Mars: Implications for Gale Crater's geochemistry. Geophysical Research Letters, 2015, 42, 1020-1028.	4.0	107
24	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
25	Classification of igneous rocks analyzed by ChemCam at Gale crater, Mars. Icarus, 2017, 288, 265-283.	2.5	96
26	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
27	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
28	Chemistry of diagenetic features analyzed by ChemCam at Pahrump Hills, Gale crater, Mars. Icarus, 2017, 281, 121-136.	2.5	90
29	Diagenetic silica enrichment and lateâ€stage groundwater activity in Gale crater, Mars. Geophysical Research Letters, 2017, 44, 4716-4724.	4.0	87
30	Laser induced breakdown spectroscopy library for the Martian environment. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2011, 66, 805-814.	2.9	86
31	Trace element geochemistry (Li, Ba, Sr, and Rb) using Curiosity'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
32	High manganese concentrations in rocks at Gale crater, Mars. Geophysical Research Letters, 2014, 41, 5755-5763.	4.0	81
33	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
34	Desiccation cracks provide evidence of lake drying on Mars, Sutton Island member, Murray formation, Gale Crater. Geology, 2018, 46, 515-518.	4.4	71
35	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
36	The potassic sedimentary rocks in Gale Crater, Mars, as seen by ChemCam on board Curiosity. Journal of Geophysical Research E: Planets, 2016, 121, 784-804.	3.6	67

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37	Independent component analysis classification of laser induced breakdown spectroscopy spectra. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2013, 86, 31-41.	2.9	66
38	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
39	Quantification of water content by laser induced breakdown spectroscopy on Mars. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2017, 130, 82-100.	2.9	65
40	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
41	Hydrogen detection with ChemCam at Gale crater. Icarus, 2015, 249, 43-61.	2.5	58
42	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
43	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
44	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
45	Mars Science Laboratory Observations of Chloride Salts in Gale Crater, Mars. Geophysical Research Letters, 2019, 46, 10754-10763.	4.0	52
46	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
47	Understanding the signature of rock coatings in laser-induced breakdown spectroscopy data. Icarus, 2015, 249, 62-73.	2.5	49
48	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
49	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
50	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
51	Classification scheme for sedimentary and igneous rocks in Gale crater, Mars. Icarus, 2017, 284, 1-17.	2.5	46
52	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
53	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
54	SuperCam Calibration Targets: Design and Development. Space Science Reviews, 2020, 216, 138.	8.1	44

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55	Martian Eolian Dust Probed by ChemCam. Geophysical Research Letters, 2018, 45, 10,968.	4.0	40
56	Post-landing major element quantification using SuperCam laser induced breakdown spectroscopy. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2022, 188, 106347.	2.9	40
57	Roughness effects on the hydrogen signal in laser-induced breakdown spectroscopy. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2017, 137, 13-22.	2.9	34
58	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
59	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
60	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
61	Iron Mobility During Diagenesis at Vera Rubin Ridge, Gale Crater, Mars. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006299.	3.6	30
62	Application of distance correction to ChemCam laser-induced breakdown spectroscopy measurements. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2016, 120, 19-29.	2.9	27
63	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
64	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
65	SuperCam calibration targets on board the perseverance rover: Fabrication and quantitative characterization. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2022, 188, 106341.	2.9	20
66	The SuperCam infrared spectrometer for the perseverance rover of the Mars2020 mission. Icarus, 2022, 373, 114773.	2.5	19
67	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
68	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
69	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
70	Disambiguating the soils of Mars. Planetary and Space Science, 2020, 186, 104922.	1.7	16
71	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
72	Improving ChemCam LIBS long-distance elemental compositions using empirical abundance trends. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2021, 182, 106247.	2.9	16

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73	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
74	Laser-Induced Breakdown Spectroscopy (LIBS) characterization of granular soils: Implications for ChemCam analyses at Gale crater, Mars. Icarus, 2021, 365, 114481.	2.5	11
75	Spark plasma sintering preparation of reference targets for field spectroscopy on Mars. Journal of Raman Spectroscopy, 2018, 49, 1419-1425.	2.5	11
76	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
77	Homogeneity assessment of the SuperCam calibration targets onboard rover perseverance. Analytica Chimica Acta, 2022, 1209, 339837.	5.4	9
78	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
79	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
80	Clustering Supported Classification of ChemCam Data From Gale Crater, Mars. Earth and Space Science, 2021, 8, .	2.6	7