Melinda Darby Dyar

List of Publications by Year
in descending order

223 papers	13,976 citations	28274 55 h-index	24258 110 g-index
226 all docs	226 docs citations	226 times ranked	9332 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	Character and Spatial Distribution of OH/H ₂ O on the Surface of the Moon Seen by M ³ on Chandrayaan-1. Science, 2009, 326, 568-572.	12.6	622
3	Mineralogy of a Mudstone at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1243480.	12.6	508
4	Marsâ€™ Surface Radiation Environment Measured with the Mars Science Laboratoryâ€™s Curiosity Rover. Science, 2014, 343, 1244797.	12.6	475
5	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
6	Reflectance and emission spectroscopy study of four groups of phyllosilicates: smectites, kaolinite-serpentines, chlorites and micas. Clay Minerals, 2008, 43, 35-54.	0.6	424
7	Volatile, Isotope, and Organic Analysis of Martian Fines with the Mars Curiosity Rover. Science, 2013, 341, 1238937.	12.6	367
8	X-ray Diffraction Results from Mars Science Laboratory: Mineralogy of Rocknest at Gale Crater. Science, 2013, 341, 1238932.	12.6	327
9	Abundance and Isotopic Composition of Gases in the Martian Atmosphere from the Curiosity Rover. Science, 2013, 341, 263-266.	12.6	327
10	Martian Fluvial Conglomerates at Gale Crater. Science, 2013, 340, 1068-1072.	12.6	326
11	Volatile and Organic Compositions of Sedimentary Rocks in Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1245267.	12.6	323
12	Curiosity at Gale Crater, Mars: Characterization and Analysis of the Rocknest Sand Shadow. Science, 2013, 341, 1239505.	12.6	280
13	MÃ–SSBAUER SPECTROSCOPY OF EARTH AND PLANETARY MATERIALS. Annual Review of Earth and Planetary Sciences, 2006, 34, 83-125.	11.0	273
14	Multivariate analysis of remote laser-induced breakdown spectroscopy spectra using partial least squares, principal component analysis, and related techniques. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2009, 64, 79-88.	2.9	266
15	Elemental Geochemistry of Sedimentary Rocks at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1244734.	12.6	246
16	Isotope Ratios of H, C, and O in CO ₂ and H ₂ O of the Martian Atmosphere. Science, 2013, 341, 260-263.	12.6	241
17	Spectroscopy of synthetic Mgâ€Fe pyroxenes I: Spinâ€allowed and spinâ€forbidden crystal field bands in the visible and nearâ€infrared. Meteoritics and Planetary Science, 2007, 42, 235-253.	1.6	236
18	Soil Diversity and Hydration as Observed by ChemCam at Gale Crater, Mars. Science, 2013, 341, 1238670.	12.6	215

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19	Calcium sulfate veins characterized by ChemCam/Curiosity at Gale crater, Mars. Journal of Geophysical Research E: Planets, 2014, 119, 1991-2016.	3.6	214
20	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
21	Nearâ€infrared spectra of clinopyroxenes: Effects of calcium content and crystal structure. Meteoritics and Planetary Science, 2011, 46, 379-395.	1.6	162
22	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
23	The Petrochemistry of Jake_M: A Martian Mugearite. Science, 2013, 341, 1239463.	12.6	134
24	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
25	Inclusive chemical characterization of tourmaline; Mossbauer study of Fe valence and site occupancy. American Mineralogist, 1998, 83, 848-864.	1.9	133
26	Spectral properties of Ca-sulfates: Gypsum, bassanite, and anhydrite. American Mineralogist, 2014, 99, 2105-2115.	1.9	122
27	The influence of octahedral and tetrahedral cation substitution on the structure of smectites and serpentines as observed through infrared spectroscopy. Clay Minerals, 2002, 37, 617-628.	0.6	119
28	Ca2Fe2O5: A promising oxygen carrier for CO/CH4 conversion and almost-pure H2 production with inherent CO2 capture over a two-step chemical looping hydrogen generation process. Applied Energy, 2018, 211, 431-442.	10.1	119
29	A study of machine learning regression methods for major elemental analysis of rocks using laser-induced breakdown spectroscopy. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2015, 107, 1-10.	2.9	113
30	Strategies for Mars remote Laser-Induced Breakdown Spectroscopy analysis of sulfur in geological samples. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2011, 66, 39-56.	2.9	107
31	Garnet-biotite geothermometry revised; new Margules parameters and a natural specimen data set from Maine. American Mineralogist, 1997, 82, 582-595.	1.9	106
32	Comparison of partial least squares and lasso regression techniques as applied to laser-induced breakdown spectroscopy of geological samples. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2012, 70, 51-67.	2.9	103
33	Low Upper Limit to Methane Abundance on Mars. Science, 2013, 342, 355-357.	12.6	103
34	Linking structure and chemistry in the schorl-dravite series. American Mineralogist, 1999, 84, 922-928.	1.9	99
35	What the ancient phyllosilicates at Mawrth Vallis can tell us about possible habitability on early Mars. Planetary and Space Science, 2013, 86, 130-149.	1.7	99
36	Characterization of the 1.2 Î¼m M1 pyroxene band: Extracting cooling history from nearâ€IR spectra of pyroxenes and pyroxeneâ€dominated rocks. Meteoritics and Planetary Science, 2008, 43, 1591-1604.	1.6	88

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37	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
38	The low-iron, reduced surface of Mercury as seen in spectral reflectance by MESSENGER. Icarus, 2014, 228, 364-374.	2.5	82
39	Constraints on the crystal-chemistry of Fe/Mg-rich smectitic clays on Mars and links to global alteration trends. Earth and Planetary Science Letters, 2015, 427, 215-225.	4.4	82
40	Mineralogy of the Paso Robles soils on Mars. American Mineralogist, 2008, 93, 728-739.	1.9	80
41	Use of Nanoporous FeOOH as a Catalytic Support for NaHCO₃ Decomposition Aimed at Reduction of Energy Requirement of Na₂CO₃/NaHCO₃ Based CO₂ Separation Technology. Journal of Physical Chemistry C, 2011, 115, 15532-15544.	3.1	80
42	Spectral identification of hydrated sulfates on Mars and comparison with acidic environments on Earth. International Journal of Astrobiology, 2004, 3, 275-285.	1.6	73
43	Fe oxidation processes at Meridiani Planum and implications for secondary Fe mineralogy on Mars. Journal of Geophysical Research, 2008, 113, .	3.3	73
44	Redox ratios with relevant resolution: Solving an old problem by using the synchrotron microXANES probe. Geology, 1998, 26, 139.	4.4	72
45	Improved accuracy in quantitative laser-induced breakdown spectroscopy using sub-models. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2017, 129, 49-57.	2.9	71
46	Metasomatic oxidation of upper mantle periodotite. Contributions To Mineralogy and Petrology, 1991, 109, 252-264.	3.1	70
47	Acid-fog deposition at Kilauea volcano: A possible mechanism for the formation of siliceous-sulfate rock coatings on Mars. Geology, 2006, 34, 921.	4.4	69
48	Machine learning tools formineral recognition and classification from Raman spectroscopy. Journal of Raman Spectroscopy, 2015, 46, 894-903.	2.5	69
49	Spectroscopic characteristics of synthetic olivine: An integrated multi-wavelength and multi-technique approach. American Mineralogist, 2009, 94, 883-898.	1.9	67
50	Martian Dunite NWA 2737: Petrographic constraints on geological history, shock events, and olivine color. Journal of Geophysical Research, 2007, 112, .	3.3	66
51	TETRAHEDRALLY COORDINATED BORON IN A TOURMALINE: BORON-RICH OLENITE FROM STOFFHUTTE, KORALPE, AUSTRIA. Canadian Mineralogist, 2000, 38, 861-868.	1.0	62
52	Fe³⁺and Fe²⁺partitioning among silicates in metapelites: A synchrotron micro-XANES study. American Mineralogist, 2002, 87, 514-522.	1.9	62
53	Characterization of Navajo Sandstone concretions: Mars comparison and criteria for distinguishing diagenetic origins. Earth and Planetary Science Letters, 2011, 301, 444-456.	4.4	62
54	Spectral and morphological characteristics of synthetic nanophase iron (oxyhydr)oxides. Physics and Chemistry of Minerals, 2018, 45, 1-26.	0.8	60

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55	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
56	Mechanisms for incorporation of hydrogen in and on terrestrial planetary surfaces. Icarus, 2010, 208, 425-437.	2.5	56
57	Planetary Geochemical Investigations Using Raman and Laser-Induced Breakdown Spectroscopy. Applied Spectroscopy, 2014, 68, 925-936.	2.2	56
58	Fe XANES spectra of iron-rich micas. European Journal of Mineralogy, 2001, 13, 1079-1098.	1.3	54
59	Implications of ferrous and ferric iron in antigorite. American Mineralogist, 2012, 97, 184-196.	1.9	54
60	MÃ¶ssbauer spectroscopy of phyllosilicates: effects of fitting models on recoil-free fractions and redox ratios. Clay Minerals, 2008, 43, 3-33.	0.6	53
61	Temperature programmed desorption studies of water interactions with Apollo lunar samples 12001 and 72501. Icarus, 2015, 255, 24-29.	2.5	53
62	Ceramic ChemCam Calibration Targets on Mars Science Laboratory. Space Science Reviews, 2012, 170, 229-255.	8.1	52
63	Correlations of octahedral cations with OH^{â^'}, O^{2â^'}, Cl^{â^'}, and F^{â^'}in biotite from volcanic rocks and xenoliths. American Mineralogist, 2002, 87, 142-153.	1.9	51
64	Structural and chemical response to varying^[4]B content in zoned Fe-bearing olenite from Koralpe, Austria. American Mineralogist, 2004, 89, 447-454.	1.9	51
65	Composition, Fe³⁺/â^‘Fe, and crystal structure of non-asbestiform and asbestiform amphiboles from Libby, Montana, U.S.A.. American Mineralogist, 2003, 88, 1970-1978.	1.9	50
66	SYSTEMATICS IN THE STRUCTURE AND XANES SPECTRA OF PYROXENES, AMPHIBOLES, AND MICAS AS DERIVED FROM ORIENTED SINGLE CRYSTALS. Canadian Mineralogist, 2002, 40, 1375-1393.	1.0	49
67	Iron partitioning between basaltic melts and clinopyroxene as a function of oxygen fugacity. American Mineralogist, 2004, 89, 1685-1693.	1.9	49
68	Neglected Fe3+/Fe2+ ratiosâ€”A study of Fe3+ content of megacrysts from alkali basalts. Geology, 1989, 17, 687.	4.4	48
69	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
70	Characterization of alteration products in tephra from Haleakala, Maui: a visible-infrared spectroscopy, MÃ¶ssbauer spectroscopy, XRD, EMPA and TEM study. Clays and Clay Minerals, 2007, 55, 1-17.	1.3	45
71	Solar Windâ€Induced Water Cycle on the Moon. Geophysical Research Letters, 2018, 45, 10,959.	4.0	45
72	Crystal-chemistry of interstratified Mg/Fe-clay minerals from seafloor hydrothermal sites. Chemical Geology, 2013, 360-361, 142-158.	3.3	44

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73	Spectral properties of Martian and other planetary glasses and their detection in remotely sensed data. Journal of Geophysical Research E: Planets, 2017, 122, 249-268.	3.6	43
74	Synergistic enhancement of chemical looping-based CO₂ splitting with biomass cascade utilization using cyclic stabilized Ca₂Fe₂O₅ aerogel. Journal of Materials Chemistry A, 2019, 7, 1216-1226.	10.3	43
75	Crystal Structure Refinement and MÃ¶ssbauer Spectroscopy of an Ordered, Triclinic Clinochlore. Clays and Clay Minerals, 1997, 45, 544-550.	1.3	42
76	Tetrahedral boron in naturally occurring tourmaline. American Mineralogist, 1999, 84, 1451-1455.	1.9	42
77	Martian dunite NWA 2737: Integrated spectroscopic analyses of brown olivine. Journal of Geophysical Research, 2008, 113, .	3.3	42
78	Mossbauer parameters of iron in phosphate minerals: Implications for interpretation of martian data. American Mineralogist, 2014, 99, 914-942.	1.9	42
79	MIL03346, the most oxidized Martian meteorite: A first look at spectroscopy, petrography, and mineral chemistry. Journal of Geophysical Research, 2005, 110, .	3.3	41
80	The magnetic properties of natural and synthetic (Fe , Mg1â^')2 SiO4 olivines. Earth and Planetary Science Letters, 2009, 284, 516-526.	4.4	41
81	Midinfrared spectroscopy of synthetic olivines: Thermal emission, specular and diffuse reflectance, and attenuated total reflectance studies of forsterite to fayalite. Journal of Geophysical Research, 2011, 116, .	3.3	39
82	STRUCTURAL VARIATION IN THE LITHIOPHILITE-TRIPHYLITE SERIES AND OTHER OLIVINE-GROUP STRUCTURES. Canadian Mineralogist, 2004, 42, 1105-1115.	1.0	38
83	CRYSTAL CHEMISTRY OF DARK BLUE AQUAMARINE FROM THE TRUE BLUE SHOWING, YUKON TERRITORY, CANADA. Canadian Mineralogist, 2010, 48, 597-613.	1.0	38
84	Low temperature aqueous alteration of basalt: Mineral assemblages of Deccan basalts and implications for Mars. Journal of Geophysical Research, 2012, 117, .	3.3	38
85	Matrix Effects in Quantitative Analysis of Laser-Induced Breakdown Spectroscopy (LIBS) of Rock Powders Doped with Cr, Mn, Ni, Zn, and Co. Applied Spectroscopy, 2017, 71, 600-626.	2.2	38
86	Comparison of univariate and multivariate models for prediction of major and minor elements from laser-induced breakdown spectra with and without masking. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2016, 123, 93-104.	2.9	37
87	Comparison of baseline removal methods for laser-induced breakdown spectroscopy of geological samples. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2016, 126, 53-64.	2.9	37
88	An FTIR study of hydrogen in anorthoclase and associated melt inclusions. American Mineralogist, 2006, 91, 12-20.	1.9	35
89	Limitations of Fe2+ and Mn2+ site occupancy in tourmaline: Evidence from Fe2+- and Mn2+-rich tourmaline. American Mineralogist, 2012, 97, 1402-1416.	1.9	35
90	TETRAHEDRALLY COORDINATED BORON IN Li-BEARING OLENITE FROM "MUSHROOM" TOURMALINE FROM MOMEIK, MYANMAR. Canadian Mineralogist, 2007, 45, 891-899.	1.0	35

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91	The effects of heterogeneity in magma water concentration on the development of flow banding and spherulites in rhyolitic lava. Journal of Volcanology and Geothermal Research, 2009, 183, 157-169.	2.1	34
92	Tourmaline of the elbaite-schorl series from the Himalaya Mine, Mesa Grande, California: A detailed investigation. American Mineralogist, 2010, 95, 24-40.	1.9	34
93	Water interactions with micronized lunar surrogates JSCâ€1A and albite under ultraâ€high vacuum with application to lunar observations. Journal of Geophysical Research E: Planets, 2013, 118, 105-115.	3.6	34
94	Fe3+/H+ and D/H in kaersutitesâ€”Misleading indicators of mantle source fugacities. Geology, 1992, 20, 565.	4.4	33
95	Effect of SiO2, total FeO, Fe3+/Fe2+, and alkali elements in basaltic glasses on mid-infrared spectra. American Mineralogist, 2009, 94, 1580-1590.	1.9	33
96	Spectral and thermal properties of perchlorate salts and implications for Mars. American Mineralogist, 2014, 99, 1580-1592.	1.9	33
97	Stability and fate of ferrihydrite during episodes of water/rock interactions on early Mars: An experimental approach. Journal of Geophysical Research E: Planets, 2017, 122, 358-382.	3.6	33
98	MENZERITE-(Y), A NEW SPECIES, Â[(Mg,Fe2+)(Fe3+,Al)](Si3)O12, FROM A FELSIC GRANULITE, PARRY SOUND, ONTARIO, AND A NEW GARNET END-MEMBER, Â[Mg2](Si3)O12. Canadian Mineralogist, 2010, 48, 1171-1193.	1.0	32
99	Mineralogy and Geochemistry of the Main Glauconite Bed in the Middle Eocene of Texas: Paleoenvironmental Implications for the Verdine Facies. PLoS ONE, 2014, 9, e87656.	2.5	32
100	Mid-infrared emission spectroscopy and visible/near-infrared reflectance spectroscopy of Fe-sulfate minerals. American Mineralogist, 2015, 100, 66-82.	1.9	32
101	Characterization of Hydrogen in Basaltic Materials With Laserâ€Induced Breakdown Spectroscopy (<scp>LIBS</scp>) for Application to <scp>MSL</scp> ChemCam Data. Journal of Geophysical Research E: Planets, 2018, 123, 1996-2021.	3.6	32
102	The effect of oxidation on the mineralogy and magnetic properties of olivine. American Mineralogist, 2019, 104, 694-702.	1.9	32
103	Ferric iron in SNC meteorites as determined by MÃ¶ssbauer spectroscopy: Implications for martian landers and martian oxygen fugacity. Meteoritics and Planetary Science, 2003, 38, 1733-1752.	1.6	31
104	Fe-BEARING OLENITE WITH TETRAHEDRALLY COORDINATED Al FROM AN ABYSSAL PEGMATITE AT KUTNA HORA, CZECH REPUBLIC: STRUCTURE, CRYSTAL CHEMISTRY, OPTICAL AND XANES SPECTRA. Canadian Mineralogist, 2006, 44, 23-30.	1.0	31
105	Accurate determination of ferric iron in garnets by bulk Mossbauer spectroscopy and synchrotron micro-XANES. American Mineralogist, 2012, 97, 1726-1740.	1.9	31
106	Coordinated spectral and XRD analyses of magnesiteâ€nontroniteâ€forsterite mixtures and implications for carbonates on Mars. Journal of Geophysical Research E: Planets, 2013, 118, 635-650.	3.6	31
107	Li-bearing tourmalines in Variscan granitic pegmatites from the Moldanubian nappes, Lower Austria. European Journal of Mineralogy, 2012, 24, 695-715.	1.3	30
108	Visible to near-infrared optical properties of pure synthetic olivine across the olivine solid solution. American Mineralogist, 2014, 99, 467-478.	1.9	30

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109	Use of multivariate analysis for synchrotron micro-XANES analysis of iron valence state in amphiboles. American Mineralogist, 2016, 101, 1171-1189.	1.9	30
110	Quench media effects on iron partitioning and ordering in a lunar glass. Journal of Non-Crystalline Solids, 1984, 67, 397-412.	3.1	28
111	Mossbauer parameters of iron in sulfate minerals. American Mineralogist, 2013, 98, 1943-1965.	1.9	28
112	Evidence for rapid topographic evolution and crater degradation on Mercury from simple crater morphometry. Geophysical Research Letters, 2017, 44, 5326-5335.	4.0	28
113	Forgotten major elements: Hydrogen and oxygen variation in biotite from metapelites. Geology, 1991, 19, 1029.	4.4	27
114	Degeneration of biogenic superparamagnetic magnetite. Geobiology, 2009, 7, 25-34.	2.4	27
115	DISORDERED Mg-BEARING OLENITE FROM A GRANITIC PEGMATITE AT GOSLARN, AUSTRIA: A CHEMICAL, STRUCTURAL, AND INFRARED SPECTROSCOPIC STUDY. Canadian Mineralogist, 2003, 41, 1363-1370.	1.0	27
116	The stability of Feâ€“Mg chlorites in hydrothermal solutionsâ€”I. Results of experimental investigations. Applied Geochemistry, 2002, 17, 1219-1239.	3.0	26
117	Accurate predictions of iron redox state in silicate glasses: A multivariate approach using X-ray absorption spectroscopy. American Mineralogist, 2016, 101, 744-747.	1.9	26
118	Stable isotope and crystal chemistry of tourmaline across pegmatite - country rock boundaries at Black Mountain and Mount Mica, southwestern Maine, U.S.A.. European Journal of Mineralogy, 1999, 11, 281-294.	1.3	26
119	Volatile interactions with the lunar surface. Chemie Der Erde, 2022, 82, 125858.	2.0	26
120	Optical and Mossbauer Spectroscopy of Iron in Micas. Reviews in Mineralogy and Geochemistry, 2002, 46, 313-349.	4.8	25
121	Assessment of shock effects on amphibole water contents and hydrogen isotope compositions: 2. Kaersutitic amphibole experiments. Earth and Planetary Science Letters, 2008, 266, 288-302.	4.4	25
122	Linkages between mineralogy, fluid chemistry, and microbial communities within hydrothermal chimneys from the <scp>E</scp>ndeavour <scp>S</scp>egment, <scp>J</scp>uan de <scp>F</scp>uca <scp>R</scp>idge. Geochemistry, Geophysics, Geosystems, 2016, 17, 300-323.	2.5	25
123	Predicting olivine composition using Raman spectroscopy through band shift and multivariate analyses. American Mineralogist, 2018, 103, 1827-1836.	1.9	25
124	Chemical and structural evidence for [4]B [4]Si substitution in natural tourmalines. European Journal of Mineralogy, 2001, 13, 743-747.	1.3	24
125	Serpentinization, iron oxidation, and aqueous conditions in an ophiolite: Implications for hydrogen production and habitability on Mars. Earth and Planetary Science Letters, 2015, 416, 21-34.	4.4	24
126	Akaganeite and schwertmannite: Spectral properties and geochemical implications of their possible presence on Mars. American Mineralogist, 2015, 100, 738-746.	1.9	24

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127	Use of the spindle stage for orientation of single crystals for microXAS: Isotropy and anisotropy in Fe-XANES spectra. American Mineralogist, 2002, 87, 1500-1504.	1.9	23
128	Carbonate precipitation under bulk acidic conditions as a potential biosignature for searching life on Mars. Earth and Planetary Science Letters, 2012, 351-352, 13-26.	4.4	23
129	Microbeam X-ray analysis of Ce3+/Ce4+ in Ti-rich minerals: A case study with titanite (sphene) with implications for multivalent trace element substitution in minerals. American Mineralogist, 2013, 98, 110-119.	1.9	23
130	Visible-infrared spectral properties of iron-bearing aluminate spinel under lunar-like redox conditionsÂ. American Mineralogist, 2014, 99, 1821-1833.	1.9	23
131	Correlation between OH concentration and oxygen isotope diffusion rate in diopsides from the Adirondack Mountains, New York. American Mineralogist, 2002, 87, 899-908.	1.9	22
132	XRD, micro-XANES, EMPA, and SIMS investigation on phlogopite single crystals from Mt. Vulture (Italy). American Mineralogist, 2010, 95, 1657-1670.	1.9	22
133	Probing Venus Surface Iron Contents With Sixâ€Band Visible Nearâ€Infrared Spectroscopy From Orbit. Geophysical Research Letters, 2020, 47, e2020GL090497.	4.0	22
134	Surface weathering on Venus: Constraints from kinetic, spectroscopic, and geochemical data. Icarus, 2021, 358, 114139.	2.5	22
135	Cation ordering in synthetic low-calcium actinolite. American Mineralogist, 2005, 90, 900-911.	1.9	21
136	Optical absorption study of natural garnets of almandine-skiagite composition showing intervalence Fe2+ + Fe3+ -> Fe3+ + Fe2+ charge-transfer transition. American Mineralogist, 2007, 92, 753-760.	1.9	21
137	Coordinated analyses of Antarctic sediments as Mars analog materials using reflectance spectroscopy and current flight-like instruments for CheMin, SAM and MOMA. Icarus, 2013, 224, 309-325.	2.5	21
138	Investigation of iron reduction by green tea polyphenols. Applied Geochemistry, 2018, 97, 263-269.	3.0	21
139	MÃ¶ssbauer spectroscopy on the surface of Mars: constraints and expectations. Earth and Planetary Science Letters, 2004, 218, 243-259.	4.4	20
140	Methods to analyze metastable and microparticulate hydrated and hydrous iron sulfate minerals. American Mineralogist, 2011, 96, 1856-1869.	1.9	20
141	Dating small fresh lunar craters with Miniâ€RF radar observations of ejecta blankets. Journal of Geophysical Research, 2012, 117, .	3.3	20
142	Fundamental Mossbauer parameters of synthetic Ca-Mg-Fe pyroxenes. American Mineralogist, 2013, 98, 1172-1186.	1.9	20
143	Structural and spectroscopic changes to natural nontronite induced by experimental impacts between 10 and 40â€‰GPa. Journal of Geophysical Research E: Planets, 2015, 120, 888-912.	3.6	20
144	Accuracies and detection limits of major, minor, and trace element quantification in rocks by portable laser-induced breakdown spectroscopy. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2020, 171, 105946.	2.9	20

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145	The F-analogue of schorl from Grasstein, Trentino South Tyrol, Italy: crystal structure and chemistry. European Journal of Mineralogy, 2006, 18, 583-588.	1.3	19
146	Physical alteration of antigorite: a MÃ¶ssbauer spectroscopy, reflectance spectroscopy and TEM study with applications to Mars. Clay Minerals, 2008, 43, 55-67.	0.6	19
147	Proximal methods for calibration transfer. Journal of Chemometrics, 2017, 31, e2877.	1.3	19
148	Assessment of shock effects on amphibole water contents and hydrogen isotope compositions: 1. Amphibolite experiments. Earth and Planetary Science Letters, 2008, 266, 46-60.	4.4	18
149	Effects of univariate and multivariate regression on the accuracy of hydrogen quantification with laser-induced breakdown spectroscopy. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2018, 139, 27-37.	2.9	18
150	Effect of data set size on geochemical quantification accuracy with laser-induced breakdown spectroscopy. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2021, 177, 106073.	2.9	18
151	The relationship between exsolution and magnetic properties in hemo-ilmenite: Insights from MÃ¶ssbauer spectroscopy with implications for planetary magnetic anomalies. Geophysical Research Letters, 2004, 31, .	4.0	17
152	Spectroscopy of Yamato 984028. Polar Science, 2011, 4, 530-549.	1.2	17
153	Characterisation of petrologic end members of oil sands from the athabasca region, Alberta, Canada. Canadian Journal of Chemical Engineering, 2013, 91, 1402-1415.	1.7	17
154	Alteration of Hawaiian basalts under sulfur-rich conditions: Applications to understanding surface-atmosphere interactions on Mars and Venus. American Mineralogist, 2014, 99, 291-302.	1.9	17
155	Partitioning of Chlorine Between Nacl Brines and Ferro-Pargasite: Implications For the Formation of Chlorine-Rich Amphiboles In Mafic Rocks. Canadian Mineralogist, 2016, 54, 337-351.	1.0	17
156	Amorphous salts formed from rapid dehydration of multicomponent chloride and ferric sulfate brines: Implications for Mars. Icarus, 2018, 302, 285-295.	2.5	17
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