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	The absorption indicatrix as an empirical model to describe anisotropy in X-ray absorption spectra of pyroxenes. American Mineralogist, 2022, 107, 654-663.	1.9	5
2	Characterization of tephra deposits using VNIR and MIR spectroscopy: A comprehensive terrestrial tephra spectral library. Remote Sensing of Environment, 2022, 273, 112965.	11.0	2
3	Quantitative prediction accuracies derived from laser-induced breakdown spectra using optimized multivariate submodels. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2022, 191, 106408.	2.9	4
4	Calculations of and effects on quantitative limits for multivariate analyses of geological materials with laser-induced breakdown spectroscopy. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2022, 191, 106395.	2.9	5
5	Volatile interactions with the lunar surface. Chemie Der Erde, 2022, 82, 125858.	2.0	26
6	A Multi-Technique Analysis of Surface Materials From Blood Falls, Antarctica. Frontiers in Astronomy and Space Sciences, 2022, 9, .	2.8	4
7	Surface weathering on Venus: Constraints from kinetic, spectroscopic, and geochemical data. Icarus, 2021, 358, 114139.	2.5	22
8	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
9	Revision of New Frontiers Goals for a Venus Mission. , 2021, 53, .		0
10	Iron Mineralogy and Sediment Color in a 100Âm Drill Core From Lake Towuti, Indonesia Reflect Catchment and Diagenetic Conditions. Geochemistry, Geophysics, Geosystems, 2021, 22, e2020GC009582.	2.5	2
11	In Situ Geochronology for the Next Decade: Mission Designs for the Moon, Mars, and Vesta. Planetary Science Journal, 2021, 2, 145.	3.6	6
12	Controls on tetrahedral Fe(III) abundance in 2:1 phyllosilicatesâ€”Reply. American Mineralogist, 2021, 106, 1536-1536.	1.9	0
13	Deriving iron contents from past and future Venus surface spectra with new high-temperature laboratory emissivity data. Science Advances, 2021, 7, .	10.3	14
14	Oxybarometry and valence quantification based on microscale X-ray absorption fine structure (XAFS) spectroscopy of multivalent elements. Chemical Geology, 2020, 531, 119305.	3.3	15
15	Effects of oxidation on pyroxene visible-near infrared and mid-infrared spectra. Icarus, 2020, 352, 113978.	2.5	8
16	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
17	Probing Venus Surface Iron Contents With Sixâ€Band Visible Nearâ€Infrared Spectroscopy From Orbit. Geophysical Research Letters, 2020, 47, e2020GL090497.	4.0	22
18	Investigation of Water Interactions With Apollo Lunar Regolith Grains. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006147.	3.6	11

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19	An Occurrence of Phlogopite-rich Alteration in the Yerington District, Nevada. Canadian Mineralogist, 2019, 57, 271-294.	1.0	0
20	In-situ mapping of ferric iron variations in lunar glasses using X-ray absorption spectroscopy. American Mineralogist, 2019, 104, 453-458.	1.9	6
21	Accuracies of lithium, boron, carbon, and sulfur quantification in geological samples with laser-induced breakdown spectroscopy in Mars, Earth, and vacuum conditions. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2019, 162, 105715.	2.9	16
22	MÃ¶ssbauer Spectroscopy. , 2019, , 147-167.		6
23	Controls on tetrahedral Fe(III) abundance in 2:1 phyllosilicates. American Mineralogist, 2019, 104, 1608-1619.	1.9	7
24	Oxidation state of iron in fulgurites and Trinitite: Implications for redox changes during abrupt high-temperature and pressure events. Geochimica Et Cosmochimica Acta, 2019, 266, 332-350.	3.9	16
25	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
26	The effect of oxidation on the mineralogy and magnetic properties of olivine. American Mineralogist, 2019, 104, 694-702.	1.9	32
27	Characterization of Iron in Lake Towuti sediment. Chemical Geology, 2019, 512, 11-30.	3.3	10
28	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
29	Distribution and Characteristics of Boulder Halos at High Latitudes on Mars: Ground Ice and Surface Processes Drive Surface Reworking. Journal of Geophysical Research E: Planets, 2018, 123, 322-334.	3.6	9
30	Spectral and morphological characteristics of synthetic nanophase iron (oxyhydr)oxides. Physics and Chemistry of Minerals, 2018, 45, 1-26.	0.8	60
31	Amorphous salts formed from rapid dehydration of multicomponent chloride and ferric sulfate brines: Implications for Mars. Icarus, 2018, 302, 285-295.	2.5	17
32	Spectroscopic study of synthetic hydrothermal Fe3+-bearing beryl. Physics and Chemistry of Minerals, 2018, 45, 489-496.	0.8	14
33	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
34	Accurate predictions of microscale oxygen barometry in basaltic glasses using V K-edge X-ray absorption spectroscopy: A multivariate approach. American Mineralogist, 2018, 103, 1282-1297.	1.9	16
35	Characterizing the source of potentially asbestos-bearing commercial vermiculite insulation using in situ IR spectroscopy. American Mineralogist, 2018, 103, 517-549.	1.9	12
36	Predicting olivine composition using Raman spectroscopy through band shift and multivariate analyses. American Mineralogist, 2018, 103, 1827-1836.	1.9	25

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37	A Spectral Comparison of Jarosites Using Techniques Relevant to the Robotic Exploration of Biosignatures on Mars. Life, 2018, 8, 61.	2.4	14
38	Solar Windâ€Induced Water Cycle on the Moon. Geophysical Research Letters, 2018, 45, 10,959.	4.0	45
39	Investigation of iron reduction by green tea polyphenols. Applied Geochemistry, 2018, 97, 263-269.	3.0	21
40	Reduction and Morphological Transformation of Synthetic Nanophase Iron Oxide Minerals by Hyperthermophilic Archaea. Frontiers in Microbiology, 2018, 9, 1550.	3.5	15
41	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
42	Making tissintite: Mimicking meteorites in the multi-anvil. American Mineralogist, 2018, 103, 1516-1519.	1.9	12
43	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
44	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
45	In situ measurement of ferric iron in lunar glass beads using Fe-XAS. Icarus, 2017, 285, 95-102.	2.5	16
46	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
47	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
48	Shock metamorphism of clay minerals on Mars by meteor impact. Geophysical Research Letters, 2017, 44, 6562-6569.	4.0	11
49	Proximal methods for calibration transfer. Journal of Chemometrics, 2017, 31, e2877.	1.3	19
50	A Fully Customized Baseline Removal Framework for Spectroscopic Applications. Applied Spectroscopy, 2017, 71, 1457-1470.	2.2	11
51	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
52	Improved accuracy in quantitative laser-induced breakdown spectroscopy using sub-models. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2017, 129, 49-57.	2.9	71
53	Optical absorption, MÃ¶ssbauer, and FTIR spectroscopic studies of two blue bazzites. Physics and Chemistry of Minerals, 2017, 44, 497-507.	0.8	7
54	Impactâ€related thermal effects on the redox state of Caâ€pyroxene. Meteoritics and Planetary Science, 2017, 52, 320-332.	1.6	8

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55	Chlorine incorporation in amphiboles synthesized along the magnesio-hastingsiteâ€“hastingsite compositional join. European Journal of Mineralogy, 2017, 29, 167-180.	1.3	9
56	Evidence for rapid topographic evolution and crater degradation on Mercury from simple crater morphometry. Geophysical Research Letters, 2017, 44, 5326-5335.	4.0	28
57	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
58	Submicrometer-scale spatial heterogeneity in silicate glasses using aberration-corrected scanning transmission electron microscopy. American Mineralogist, 2016, 101, 2677-2688.	1.9	14
59	Use of multivariate analysis for synchrotron micro-XANES analysis of iron valence state in amphiboles. American Mineralogist, 2016, 101, 1171-1189.	1.9	30
60	Spectral nature of CO2 adsorption onto meteorites. Icarus, 2016, 280, 366-377.	2.5	5
61	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
62	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
63	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
64	Fluor-schorl, a new member of the tourmaline supergroup, and new data on schorl from the cotype localities. European Journal of Mineralogy, 2016, 28, 163-177.	1.3	14
65	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
66	Reflectance spectroscopy of chromium-bearing spinel with application to recent orbital data from the Moon. American Mineralogist, 2016, 101, 726-734.	1.9	16
67	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
68	THE CHALLENGE OF DISTINGUISHING IRON (HYDR)OXIDES AND WHAT IT MEANS FOR MARS. , 2016, , .		2
69	Manifold preprocessing for laserâ€induced breakdown spectroscopy under Mars conditions. Journal of Chemometrics, 2015, 29, 484-491.	1.3	11
70	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
71	Machine learning tools formineral recognition and classification from Raman spectroscopy. Journal of Raman Spectroscopy, 2015, 46, 894-903.	2.5	69
72	The role of intensity and instrument sensitivity in Raman mineral identification. Journal of Raman Spectroscopy, 2015, 46, 889-893.	2.5	5

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73	Aberration-Corrected STEM-EELS Measurements in Fe-bearing Silicate Glasses. Microscopy and Microanalysis, 2015, 21, 1527-1528.	0.4	0
74	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
75	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
76	Mid-infrared emission spectroscopy and visible/near-infrared reflectance spectroscopy of Fe-sulfate minerals. American Mineralogist, 2015, 100, 66-82.	1.9	32
77	Temperature programmed desorption studies of water interactions with Apollo lunar samples 12001 and 72501. Icarus, 2015, 255, 24-29.	2.5	53
78	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
79	Spectroscopy of red dravite from northern Tanzania. Physics and Chemistry of Minerals, 2015, 42, 559-568.	0.8	4
80	Akaganeite and schwertmannite: Spectral properties and geochemical implications of their possible presence on Mars. American Mineralogist, 2015, 100, 738-746.	1.9	24
81	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
82	The experimental incorporation of Fe into talc: a study using X-ray diffraction, Fourier transform infrared spectroscopy, and MÃ¶ssbauer spectroscopy. Contributions To Mineralogy and Petrology, 2015, 170, 1.	3.1	13
83	Visible-infrared spectral properties of iron-bearing aluminate spinel under lunar-like redox conditionsÂ. American Mineralogist, 2014, 99, 1821-1833.	1.9	23
84	The relationship between radar scattering and surface roughness of lunar volcanic features. Journal of Geophysical Research E: Planets, 2014, 119, 2331-2348.	3.6	15
85	Spectral properties of Ca-sulfates: Gypsum, bassanite, and anhydrite. American Mineralogist, 2014, 99, 2105-2115.	1.9	122
86	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
87	Spectral and thermal properties of perchlorate salts and implications for Mars. American Mineralogist, 2014, 99, 1580-1592.	1.9	33
88	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
89	The low-iron, reduced surface of Mercury as seen in spectral reflectance by MESSENGER. Icarus, 2014, 228, 364-374.	2.5	82
90	Magnetite formation from ferrihydrite by hyperthermophilic archaea from <scp>E</scp>ndeavour <scp>S</scp>egment, <scp>J</scp>uan de <scp>F</scp>uca <scp>R</scp>idge hydrothermal vent chimneys. Geobiology, 2014, 12, 200-211.	2.4	12

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91	Volatile and Organic Compositions of Sedimentary Rocks in Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1245267.	12.6	323
92	A Habitable Fluvio-Lacustrine Environment at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1242777.	12.6	687
93	Mineralogy of a Mudstone at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1243480.	12.6	508
94	Marsâ€™ Surface Radiation Environment Measured with the Mars Science Laboratoryâ€™s Curiosity Rover. Science, 2014, 343, 1244797.	12.6	475
95	Elemental Geochemistry of Sedimentary Rocks at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1244734.	12.6	246
96	Calcium sulfate veins characterized by ChemCam/Curiosity at Gale crater, Mars. Journal of Geophysical Research E: Planets, 2014, 119, 1991-2016.	3.6	214
97	Variation in XANES in biotite as a function of orientation, crystal composition, and metamorphic history. American Mineralogist, 2014, 99, 443-457.	1.9	11
98	Visible to near-infrared optical properties of pure synthetic olivine across the olivine solid solution. American Mineralogist, 2014, 99, 467-478.	1.9	30
99	Mossbauer parameters of iron in phosphate minerals: Implications for interpretation of martian data. American Mineralogist, 2014, 99, 914-942.	1.9	42
100	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
101	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
102	Successes and Challenges of Laser-Induced Breakdown Spectroscopy (LIBS) Applied to Chemical Analyses of Geological Samples.. Microscopy and Microanalysis, 2014, 20, 1680-1681.	0.4	0
103	Planetary Geochemical Investigations Using Raman and Laser-Induced Breakdown Spectroscopy. Applied Spectroscopy, 2014, 68, 925-936.	2.2	56
104	Crystal-chemistry of interstratified Mg/Fe-clay minerals from seafloor hydrothermal sites. Chemical Geology, 2013, 360-361, 142-158.	3.3	44
105	X-ray Diffraction Results from Mars Science Laboratory: Mineralogy of Rocknest at Gale Crater. Science, 2013, 341, 1238932.	12.6	327
106	Curiosity at Gale Crater, Mars: Characterization and Analysis of the Rocknest Sand Shadow. Science, 2013, 341, 1239505.	12.6	280
107	Mossbauer parameters of iron in sulfate minerals. American Mineralogist, 2013, 98, 1943-1965.	1.9	28
108	Abundance and Isotopic Composition of Gases in the Martian Atmosphere from the Curiosity Rover. Science, 2013, 341, 263-266.	12.6	327

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109	Volatile, Isotope, and Organic Analysis of Martian Fines with the Mars Curiosity Rover. Science, 2013, 341, 1238937.	12.6	367
110	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
111	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
112	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
113	Martian Fluvial Conglomerates at Gale Crater. Science, 2013, 340, 1068-1072.	12.6	326
114	The Petrochemistry of Jake_M: A Martian Mugearite. Science, 2013, 341, 1239463.	12.6	134
115	Fundamental Mossbauer parameters of synthetic Ca-Mg-Fe pyroxenes. American Mineralogist, 2013, 98, 1172-1186.	1.9	20
116	Soil Diversity and Hydration as Observed by ChemCam at Gale Crater, Mars. Science, 2013, 341, 1238670.	12.6	215
117	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
118	Low Upper Limit to Methane Abundance on Mars. Science, 2013, 342, 355-357.	12.6	103
119	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
120	Coordinated spectral and XRD analyses of magnesiteâ€ntronniteâ€forsterite mixtures and implications for carbonates on Mars. Journal of Geophysical Research E: Planets, 2013, 118, 635-650.	3.6	31
121	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
122	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
123	Li-bearing tourmalines in Variscan granitic pegmatites from the Moldanubian nappes, Lower Austria. European Journal of Mineralogy, 2012, 24, 695-715.	1.3	30
124	Implications of ferrous and ferric iron in antigorite. American Mineralogist, 2012, 97, 184-196.	1.9	54
125	Ceramic ChemCam Calibration Targets on Mars Science Laboratory. Space Science Reviews, 2012, 170, 229-255.	8.1	52
126	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

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127	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
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	Dating small fresh lunar craters with Miniâ€RF radar observations of ejecta blankets. Journal of Geophysical Research, 2012, 117, .	3.3	20
130	Low temperature aqueous alteration of basalt: Mineral assemblages of Deccan basalts and implications for Mars. Journal of Geophysical Research, 2012, 117, .	3.3	38
131	Accurate determination of ferric iron in garnets by bulk Mossbauer spectroscopy and synchrotron micro-XANES. American Mineralogist, 2012, 97, 1726-1740.	1.9	31
132	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
133	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
134	Spectroscopy of Yamato 984028. Polar Science, 2011, 4, 530-549.	1.2	17
135	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
136	Methods to analyze metastable and microparticulate hydrated and hydrous iron sulfate minerals. American Mineralogist, 2011, 96, 1856-1869.	1.9	20
137	Nearâ€infrared spectra of clinopyroxenes: Effects of calcium content and crystal structure. Meteoritics and Planetary Science, 2011, 46, 379-395.	1.6	162
138	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
139	Differences in Fe-redox for asbestiform and nonasbestiform amphiboles from the former vermiculite mine, near Libby, Montana, U.S.A.. American Mineralogist, 2011, 96, 1414-1417.	1.9	6
140	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
141	Mechanisms for incorporation of hydrogen in and on terrestrial planetary surfaces. Icarus, 2010, 208, 425-437.	2.5	56
142	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
143	XRD, micro-XANES, EMPA, and SIMS investigation on phlogopite single crystals from Mt. Vulture (Italy). American Mineralogist, 2010, 95, 1657-1670.	1.9	22
144	CRYSTAL CHEMISTRY OF DARK BLUE AQUAMARINE FROM THE TRUE BLUE SHOWING, YUKON TERRITORY, CANADA. Canadian Mineralogist, 2010, 48, 597-613.	1.0	38

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145	Acid production by FeSO4{middle dot}nH2O dissolution and implications for terrestrial and martian aquatic systems. American Mineralogist, 2009, 94, 409-414.	1.9	16
146	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
147	Degeneration of biogenic superparamagnetic magnetite. Geobiology, 2009, 7, 25-34.	2.4	27
148	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
149	Spectroscopic characteristics of synthetic olivine: An integrated multi-wavelength and multi-technique approach. American Mineralogist, 2009, 94, 883-898.	1.9	67
150	The magnetic properties of natural and synthetic (Fe , Mg1âˆ')2 SiO4 olivines. Earth and Planetary Science Letters, 2009, 284, 516-526.	4.4	41
151	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
152	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
153	FLUORO-POTASSICHASTINGSITE FROM THE GREENWOOD MINE, ORANGE COUNTY, NEW YORK: A NEW END-MEMBER CALCIC AMPHIBOLE. Canadian Mineralogist, 2009, 47, 909-916.	1.0	4
154	Oxygen and Asteroids. Reviews in Mineralogy and Geochemistry, 2008, 68, 273-343.	4.8	12
155	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
156	Martian dunite NWA 2737: Integrated spectroscopic analyses of brown olivine. Journal of Geophysical Research, 2008, 113, .	3.3	42
157	Fe oxidation processes at Meridiani Planum and implications for secondary Fe mineralogy on Mars. Journal of Geophysical Research, 2008, 113, .	3.3	73
158	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
159	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
160	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
161	PERTLIKITE, A NEW TETRAGONAL Mg-RICH MEMBER OF THE VOLTAITE GROUP FROM MADENI ZAKH, IRAN. Canadian Mineralogist, 2008, 46, 661-669.	1.0	14
162	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

#	Article	IF	Citations
163	Mineralogy of the Paso Robles soils on Mars. American Mineralogist, 2008, 93, 728-739.	1.9	80
164	Preface: Petrologic Mineralogy--the study of minerals in context: A memorial in honor of Charles V. Guidotti. American Mineralogist, 2008, 93, 261-262.	1.9	0
165	MOSSBAUER SPECTROSCOPY OF ENVIRONMENTAL MATERIALS AND THEIR INDUSTRIAL UTILIZATION: by Enver Murad and John Cashion. (2004) Kluwer Academic Publishers, Norwell, Massachusetts 417 p. ISBN: 1 4020 7726 2. $165.00.. American Mineralogist, 2008, 93, 1195-1195.	1.9	0
166	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
167	Characterization of historical amphibole samples from the former vermiculite mine near Libby, Montana, U.S.A. European Journal of Mineralogy, 2008, 20, 1043-1053.	1.3	7
168	Effects of differential recoil-free fraction on ordering and site occupancies in Mossbauer spectroscopy of orthopyroxenes. American Mineralogist, 2007, 92, 424-428.	1.9	16
169	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
170	Martian Dunite NWA 2737: Petrographic constraints on geological history, shock events, and olivine color. Journal of Geophysical Research, 2007, 112, .	3.3	66
171	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
172	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
173	CHEMICAL SUBSTITUTIONS IN OXIDIZED TOURMALINE IN GRANITE-RELATED MINERALIZED HYDROTHERMAL SYSTEMS, WESTERN TURKEY. Canadian Mineralogist, 2007, 45, 1397-1413.	1.0	6
174	Chemical composition, statistical analysis of the unit cell, and electrostatic modeling of the structure of Al-saturated chlorite from metamorphosed rocks. American Mineralogist, 2007, 92, 954-965.	1.9	6
175	Velocity scales for Mars MÃ¶ssbauer data. Hyperfine Interactions, 2007, 170, 67-74.	0.5	16
176	TETRAHEDRALLY COORDINATED BORON IN Li-BEARING OLENITE FROM "MUSHROOM" TOURMALINE FROM MOMEIK, MYANMAR. Canadian Mineralogist, 2007, 45, 891-899.	1.0	35
177	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
178	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
179	MÃ–SSBAUER SPECTROSCOPY OF EARTH AND PLANETARY MATERIALS. Annual Review of Earth and Planetary Sciences, 2006, 34, 83-125.	11.0	273
180	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

#	Article	IF	Citations
181	Velocity calibration for in-situ MÃ¶ssbauer data from Mars. Hyperfine Interactions, 2006, 167, 845-850.	0.5	4
182	An FTIR study of hydrogen in anorthoclase and associated melt inclusions. American Mineralogist, 2006, 91, 12-20.	1.9	35
183	Cation ordering in synthetic low-calcium actinolite. American Mineralogist, 2005, 90, 900-911.	1.9	21
184	MIL03346, the most oxidized Martian meteorite: A first look at spectroscopy, petrography, and mineral chemistry. Journal of Geophysical Research, 2005, 110, .	3.3	41
185	Integration of New Methods into Teaching Mineralogy. Journal of Geoscience Education, 2004, 52, 23-30.	1.4	10
186	Iron partitioning between basaltic melts and clinopyroxene as a function of oxygen fugacity. American Mineralogist, 2004, 89, 1685-1693.	1.9	49
187	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
188	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
189	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
190	MÃ¶ssbauer spectroscopy on the surface of Mars: constraints and expectations. Earth and Planetary Science Letters, 2004, 218, 243-259.	4.4	20
191	STRUCTURAL VARIATION IN THE LITHIOPHILITE-TRIPHYLITE SERIES AND OTHER OLIVINE-GROUP STRUCTURES. Canadian Mineralogist, 2004, 42, 1105-1115.	1.0	38
192	Fe-RICH OLENITE WITH TETRAHEDRALLY COORDINATED Fe3+ FROM EIBENSTEIN, AUSTRIA: STRUCTURAL, CHEMICAL, AND MOSSBAUER DATA. Canadian Mineralogist, 2004, 42, 1057-1063.	1.0	12
193	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
194	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
195	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
196	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
197	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
198	Fe³⁺and Fe²⁺partitioning among silicates in metapelites: A synchrotron micro-XANES study. American Mineralogist, 2002, 87, 514-522.	1.9	62

#	Article	IF	Citations
199	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
200	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
201	Optical and Mossbauer Spectroscopy of Iron in Micas. Reviews in Mineralogy and Geochemistry, 2002, 46, 313-349.	4.8	25
202	X-Ray Absorption Spectroscopy of the Micas. Reviews in Mineralogy and Geochemistry, 2002, 46, 371-411.	4.8	16
203	The stability of Feâ€“Mg chlorites in hydrothermal solutionsâ€”I. Results of experimental investigations. Applied Geochemistry, 2002, 17, 1219-1239.	3.0	26
204	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
205	Fe XANES spectra of iron-rich micas. European Journal of Mineralogy, 2001, 13, 1079-1098.	1.3	54
206	Chemical and structural evidence for [4]B [4]Si substitution in natural tourmalines. European Journal of Mineralogy, 2001, 13, 743-747.	1.3	24
207	TETRAHEDRALLY COORDINATED BORON IN A TOURMALINE: BORON-RICH OLENITE FROM STOFFHUTTE, KORALPE, AUSTRIA. Canadian Mineralogist, 2000, 38, 861-868.	1.0	62
208	Tetrahedral boron in naturally occurring tourmaline. American Mineralogist, 1999, 84, 1451-1455.	1.9	42
209	Linking structure and chemistry in the schorl-dravite series. American Mineralogist, 1999, 84, 922-928.	1.9	99
210	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
211	Redox ratios with relevant resolution: Solving an old problem by using the synchrotron microXANES probe. Geology, 1998, 26, 139.	4.4	72
212	Inclusive chemical characterization of tourmaline; Mossbauer study of Fe valence and site occupancy. American Mineralogist, 1998, 83, 848-864.	1.9	133
213	Garnet-biotite geothermometry revised; new Margules parameters and a natural specimen data set from Maine. American Mineralogist, 1997, 82, 582-595.	1.9	106
214	Crystal Structure Refinement and MÃ¶ssbauer Spectroscopy of an Ordered, Triclinic Clinochlore. Clays and Clay Minerals, 1997, 45, 544-550.	1.3	42
215	Polarized single crystal spectra of natural and reheated olivines in the near ultraviolet spectral region and the problem of Fe3+-bearing structural defects. Physics and Chemistry of Minerals, 1996, 23, 285.	0.8	5
216	Fe3+/H+ and D/H in kaersutitesâ€”Misleading indicators of mantle source fugacities. Geology, 1992, 20, 565.	4.4	33

#	Article	IF	Citations
217	Metasomatic oxidation of upper mantle periodotite. Contributions To Mineralogy and Petrology, 1991, 109, 252-264.	3.1	70
218	Forgotten major elements: Hydrogen and oxygen variation in biotite from metapelites. Geology, 1991, 19, 1029.	4.4	27
219	Neglected Fe3+/Fe2+ ratiosâ€"A study of Fe3+ content of megacrysts from alkali basalts. Geology, 1989, 17, 687.	4.4	48
220	Spinel ferrite-silica glass obtained by splat quenching. Journal of Non-Crystalline Solids, 1986, 81, 351-364.	3.1	8
221	Quench media effects on iron partitioning and ordering in a lunar glass. Journal of Non-Crystalline Solids, 1984, 67, 397-412.	3.1	28
222	Experimental methods for quenching structures in lunarâ€analog silicate melts: Variations as a function of quench media and composition. Journal of Geophysical Research, 1984, 89, C233.	3.3	9
223	Spectral chemistry of green glassâ€bearing 15426 regolith. Journal of Geophysical Research, 1983, 88, B221.	3.3	6