J R Michalski

List of Publications by Year
in descending order

77 papers	3,942 citations	126907 33 h-index	118850 62 g-index
79 all docs	79 docs citations	79 times ranked	2872 citing authors

#	Article	IF	Citations
1	Chemistry-dependent Raman spectral features of glauconite and nontronite: Implications for mineral identification and provenance analysis. American Mineralogist, 2022, 107, 1080-1090.	1.9	2
2	Mars-rover cameras evaluation of laboratory spectra of Fe-bearing Mars analog samples. Icarus, 2022, 371, 114704.	2.5	8
3	Possible widespread occurrence of vermiculite on Mars. Applied Clay Science, 2022, 228, 106643.	5.2	7
4	Reflectance spectroscopy applied to clay mineralogy and alteration intensity of a thick basaltic weathering sequence in Hainan Island, South China. Applied Clay Science, 2021, 201, 105923.	5.2	14
5	Anoxic chemical weathering under a reducing greenhouse on early Mars. Nature Astronomy, 2021, 5, 503-509.	10.1	23
6	Precipitationâ€Driven Pedogenic Weathering of Volcaniclastics on Early Mars. Geophysical Research Letters, 2021, 48, e2020GL091551.	4.0	12
7	Definition and use of functional analogues in planetary exploration. Planetary and Space Science, 2021, 197, 105162.	1.7	10
8	Infrared Spectral Evidence for Kâ€Metasomatism of Volcanic Rocks on Mars. Geophysical Research Letters, 2021, 48, e2021GL093882.	4.0	5
9	Earth-like Habitable Environments in the Subsurface of Mars. Astrobiology, 2021, 21, 741-756.	3.0	27
10	Brain-terrain-like features in the Qaidam Basin: Implications for various morphological features on Mars. Icarus, 2021, 363, 114434.	2.5	2
11	Crustal Groundwater Volumes Greater Than Previously Thought. Geophysical Research Letters, 2021, 48, e2021GL093549.	4.0	24
12	Caldera Collapse and Volcanic Resurfacing in Arabia Terra Provide Hints of Vast Underâ€Recognized Early Martian Volcanism. Geophysical Research Letters, 2021, 48, e2021GL093118.	4.0	2
13	Intense subaerial weathering of eolian sediments in Gale crater, Mars. Science Advances, 2021, 7, .	10.3	13
14	Controls on tetrahedral Fe(III) abundance in 2:1 phyllosilicatesâ€"Reply. American Mineralogist, 2021, 106, 1536-1536.	1.9	0
15	Jarosite formation in deep Antarctic ice provides a window into acidic, water-limited weathering on Mars. Nature Communications, 2021, 12, 436.	12.8	32
16	Geomorphologic exploration targets at the Zhurong landing site in the southern Utopia Planitia of Mars. Earth and Planetary Science Letters, 2021, 576, 117199.	4.4	26
17	Visible/near infrared reflectance (VNIR) spectral features of ion-exchangeable Rare earth elements hosted by clay minerals: Potential use for exploration of regolith-hosted REE deposits. Applied Clay Science, 2021, 215, 106320.	5.2	3
18	Effects of Environmental Fe Concentrations on Formation and Evolution of Allophane in Alâ€Siâ€Fe Systems: Implications for Both Earth and Mars. Journal of Geophysical Research E: Planets, 2020, 125, e2020JE006590.	3.6	8

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19	The Laboratory-Based HySpex Features of Chlorite as the Exploration Tool for High-Grade Iron Ore in Anshan-Benxi Area, Liaoning Province, Northeast China. Applied Sciences (Switzerland), 2020, 10, 7444.	2.5	6
20	Quantitative estimation of clay minerals in airborne hyperspectral data using a calibration field. Journal of Applied Remote Sensing, 2020, 14, .	1.3	4
21	Controls on tetrahedral Fe(III) abundance in 2:1 phyllosilicates. American Mineralogist, 2019, 104, 1608-1619.	1.9	7
22	The Geology and Astrobiology of McLaughlin Crater, Mars: An Ancient Lacustrine Basin Containing Turbidites, Mudstones, and Serpentinites. Journal of Geophysical Research E: Planets, 2019, 124, 910-940.	3.6	17
23	Geomorphologic Characteristics of Polygonal Features on Chloride-Bearing Deposits on Mars: Implications for Martian Hydrology and Astrobiology. Journal of Earth Science (Wuhan, China), 2019, 30, 1049-1058.	3.2	5
24	Abundance and composition of kaolinite on Mars: Information from NIR spectra of rocks from acid-alteration environments, Riotinto, SE Spain. Icarus, 2019, 330, 30-41.	2.5	9
25	The next frontier for planetary and human exploration. Nature Astronomy, 2019, 3, 116-120.	10.1	39
26	Surface clay formation during short-term warmer and wetter conditions on a largely cold ancient Mars. Nature Astronomy, 2018, 2, 206-213.	10.1	105
27	The Martian subsurface as a potential window into the origin of life. Nature Geoscience, 2018, 11, 21-26.	12.9	91
28	Electron microscopy investigation of the genetic link between Fe oxides/oxyhydroxides and nontronite in submarine hydrothermal fields. Marine Geology, 2018, 395, 247-259.	2.1	5
29	Diverse mineral assemblages of acidic alteration in the Rio Tinto area (southwest Spain): Implications for Mars. American Mineralogist, 2018, 103, 1877-1890.	1.9	10
30	Identification of iron in Earth analogues of Martian phyllosilicates using visible reflectance spectroscopy: Spectral derivatives and color parameters. Applied Clay Science, 2018, 165, 264-276.	5.2	9
31	High-resolution investigations of Transverse Aeolian Ridges on Mars. Icarus, 2018, 312, 247-266.	2.5	40
32	Shock metamorphism of clay minerals on Mars by meteor impact. Geophysical Research Letters, 2017, 44, 6562-6569.	4.0	11
33	Elevated olivine weathering rates and sulfate formation at cryogenic temperatures on Mars. Nature Communications, 2017, 8, 998.	12.8	23
34	Ancient hydrothermal seafloor deposits in Eridania basin on Mars. Nature Communications, 2017, 8, 15978.	12.8	84
35	Remote Detection of Clay Minerals. Developments in Clay Science, 2017, 8, 482-514.	0.5	11
36	Octahedral chemistry of 2:1 clay minerals and hydroxyl band position in the near-infrared: Application to Mars. American Mineralogist, 2016, 101, 554-563.	1.9	24

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37	Examining Structural and Related Spectral Change in Mars-relevant Phyllosilicates After Experimental Impacts Between 10â€“40 GPa. Clays and Clay Minerals, 2016, 64, 189-209.	1.3	11
38	History of the clay-rich unit at Mawrth Vallis, Mars: High-resolution mapping of a candidate landing site. Journal of Geophysical Research E: Planets, 2015, 120, 1820-1846.	3.6	24
39	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
40	Thermal and nearâ€infrared analyses of central peaks of Martian impact craters: Evidence for a heterogeneous Martian crust. Journal of Geophysical Research E: Planets, 2015, 120, 662-688.	3.6	14
41	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
42	Supervolcanoes within an ancient volcanic province in Arabia Terra, Mars. Nature, 2013, 502, 47-52.	27.8	123
43	Crystal-chemistry of interstratified Mg/Fe-clay minerals from seafloor hydrothermal sites. Chemical Geology, 2013, 360-361, 142-158.	3.3	44
44	Groundwater activity on Mars and implications for a deep biosphere. Nature Geoscience, 2013, 6, 133-138.	12.9	189
45	Geochemical Consequences of Widespread Clay Mineral Formation in Marsâ€™ Ancient Crust. Space Science Reviews, 2013, 174, 329-364.	8.1	108
46	Geochemistry of Carbonates on Mars: Implications for Climate History and Nature of Aqueous Environments. Space Science Reviews, 2013, 174, 301-328.	8.1	126
47	Geochemical Reservoirs and Timing of Sulfur Cycling on Mars. Space Science Reviews, 2013, 174, 251-300.	8.1	103
48	Investigation of Al-rich clays on Mars: Evidence for kaoliniteâ€“smectite mixed-layer versus mixture of end-member phases. Icarus, 2013, 222, 296-306.	2.5	24
49	Multiple working hypotheses for the formation of compositional stratigraphy on Mars: Insights from the Mawrth Vallis region. Icarus, 2013, 226, 816-840.	2.5	53
50	Atmospheric origin of Martian interior layered deposits: Links to climate change and the global sulfur cycle. Geology, 2012, 40, 419-422.	4.4	59
51	Selection of the Mars Science Laboratory Landing Site. Space Science Reviews, 2012, 170, 641-737.	8.1	216
52	Fast, microscale-controlled weathering of rhyolitic obsidian to quartz and alunite. Earth and Planetary Science Letters, 2012, 353-354, 156-162.	4.4	7
53	Selection of the Mars Science Laboratory Landing Site. , 2012, , 641-737.		10
54	Geochemical Reservoirs and Timing of Sulfur Cycling on Mars. Space Sciences Series of ISSI, 2012, , 251-300.	0.0	2

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55	Geochemical Consequences of Widespread Clay Mineral Formation in Marsâ€™ Ancient Crust. Space Sciences Series of ISSI, 2012, , 329-364.	0.0	0
56	Geochemistry of Carbonates on Mars: Implications for Climate History and Nature of Aqueous Environments. Space Sciences Series of ISSI, 2012, , 301-328.	0.0	2
57	Spectroscopic study of the dehydration and/or dehydroxylation of phyllosilicate and zeolite minerals. Journal of Geophysical Research, 2011, 116, .	3.3	89
58	Analysis of phyllosilicate deposits in the Nili Fossae region of Mars: Comparison of TES and OMEGA data. Icarus, 2010, 206, 269-289.	2.5	48
59	Deep crustal carbonate rocks exposed by meteor impact on Mars. Nature Geoscience, 2010, 3, 751-755.	12.9	160
60	The Mawrth Vallis Region of Mars: A Potential Landing Site for the Mars Science Laboratory (MSL) Mission. Astrobiology, 2010, 10, 687-703.	3.0	48
61	Mineralogy and stratigraphy of phyllosilicateâ€bearing and dark mantling units in the greater Mawrth Vallis/west Arabia Terra area: Constraints on geological origin. Journal of Geophysical Research, 2010, 115, .	3.3	104
62	Composition and thermal inertia of the Mawrth Vallis region of Mars from TES and THEMIS data. Icarus, 2009, 199, 25-48.	2.5	49
63	Meridiani Planum sediments on Mars formed through weathering in massive ice deposits. Nature Geoscience, 2009, 2, 215-220.	12.9	149
64	Phyllosilicate Diversity and Past Aqueous Activity Revealed at Mawrth Vallis, Mars. Science, 2008, 321, 830-833.	12.6	328
65	Abundance of minerals in the phyllosilicate-rich units on Mars. Astronomy and Astrophysics, 2008, 487, L41-L44.	5.1	123
66	Alteration mineralogy in detachment zones: Insights from Swansea, Arizona. , 2007, 3, 184.		17
67	Evidence for a sedimentary origin of clay minerals in the Mawrth Vallis region, Mars. Geology, 2007, 35, 951.	4.4	85
68	Evidence for montmorillonite or its compositional equivalent in Columbia Hills, Mars. Journal of Geophysical Research, 2007, 112, .	3.3	81
69	Correction to â€œThe rocks of Gusev Crater as viewed by the Mini-TES instrumentâ€. Journal of Geophysical Research, 2007, 112, .	3.3	0
70	Emission spectroscopy of clay minerals and evidence for poorly crystalline aluminosilicates on Mars from Thermal Emission Spectrometer data. Journal of Geophysical Research, 2006, 111, .	3.3	75
71	In situ and experimental evidence for acidic weathering of rocks and soils on Mars. Journal of Geophysical Research, 2006, 111, n/a-n/a.	3.3	169
72	Effects of chemical weathering on infrared spectra of Columbia River Basalt and spectral interpretations of martian alteration. Earth and Planetary Science Letters, 2006, 248, 822-829.	4.4	43

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73	The rocks of Gusev Crater as viewed by the Mini-TES instrument. Journal of Geophysical Research, 2006, 111, n/a-n/a.	3.3	115
74	Mineralogical constraints on the high-silica martian surface component observed by TES. Icarus, 2005, 174, 161-177.	2.5	133
75	Thermal infrared analysis of weathered granitic rock compositions in the Sacaton Mountains, Arizona: Implications for petrologic classifications from thermal infrared remote-sensing data. Journal of Geophysical Research, 2004, 109, .	3.3	23
76	Thermal emission spectroscopy of the silica polymorphs and considerations for remote sensing of Mars. Geophysical Research Letters, 2003, 30, .	4.0	68
77	Effects of pure silica coatings on thermal emission spectra of basaltic rocks: Considerations for Martian surface mineralogy. Geophysical Research Letters, 2003, 30, .	4.0	100