

Michael A Velbel

List of Publications by Year in descending order

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Version: 2024-02-01

40
papers

3,143
citations

394421

19
h-index

330143

37
g-index

40
all docs

40
docs citations

40
times ranked

3071
citing authors

#	ARTICLE	IF	CITATIONS
1	Comet 81P/Wild 2 Under a Microscope. <i>Science</i> , 2006, 314, 1711-1716.	12.6	848
2	Mineralogy and Petrology of Comet 81P/Wild 2 Nucleus Samples. <i>Science</i> , 2006, 314, 1735-1739.	12.6	589
3	Chemical weathering indices applied to weathering profiles developed on heterogeneous felsic metamorphic parent rocks. <i>Chemical Geology</i> , 2003, 202, 397-416.	3.3	496
4	Trace element mobility during spheroidal weathering of basalts and andesites in Hawaii and Guatemala. <i>Chemical Geology</i> , 2003, 202, 343-364.	3.3	176
5	Comparing Wild 2 particles to chondrites and IDPs. <i>Meteoritics and Planetary Science</i> , 2008, 43, 261-272.	1.6	136
6	Terrestrial weathering of Antarctic stone meteorites: Formation of Mg-carbonates on ordinary chondrites. <i>Geochimica Et Cosmochimica Acta</i> , 1991, 55, 67-76.	3.9	92
7	Antarctic Dry Valleys and indigenous weathering in Mars meteorites: Implications for water and life on Mars. <i>Icarus</i> , 2005, 174, 383-395.	2.5	90
8	Rates and time scales of clay-mineral formation by weathering in saprolitic regoliths of the southern Appalachians from geochemical mass balance. <i>Bulletin of the Geological Society of America</i> , 2005, 117, 783.	3.3	74
9	A TEM study of thermally modified comet 81P/Wild 2 dust particles by interactions with the aerogel matrix during the Stardust capture process. <i>Meteoritics and Planetary Science</i> , 2008, 43, 97-120.	1.6	73
10	Dissolution of olivine during natural weathering. <i>Geochimica Et Cosmochimica Acta</i> , 2009, 73, 6098-6113.	3.9	73
11	Solute geochemical mass-balances and mineral weathering rates in small watersheds: Methodology, recent advances, and future directions. <i>Applied Geochemistry</i> , 2007, 22, 1682-1700.	3.0	58
12	Replacement of olivine by serpentine in the carbonaceous chondrite Nogoya (CM2). <i>Geochimica Et Cosmochimica Acta</i> , 2012, 87, 117-135.	3.9	50
13	Allanite and epidote weathering at the Coweeta Hydrologic Laboratory, western North Carolina, U.S.A.. <i>American Mineralogist</i> , 2005, 90, 101-114.	1.9	36
14	Terrestrial weathering of ordinary chondrites in nature and continuing during laboratory storage and processing: Review and implications for Hayabusa sample integrity. <i>Meteoritics and Planetary Science</i> , 2014, 49, 154-171.	1.6	28
15	Replacement of olivine by serpentine in the Queen Alexandra Range 93005 carbonaceous chondrite (CM2): Reactantâ€“product compositional relations, and isovolumetric constraints on reaction stoichiometry and elemental mobility during aqueous alteration. <i>Geochimica Et Cosmochimica Acta</i> , 2015, 148, 402-425.	3.9	28
16	Evaporite formation during weathering of Antarctic meteoritesâ€“â€“A weathering census analysis based on the ANSMET database. <i>Meteoritics and Planetary Science</i> , 2011, 46, 443-458.	1.6	27
17	Fine-grained serpentine in CM2 carbonaceous chondrites and its implications for the extent of aqueous alteration on the parent body: A review. <i>Clays and Clay Minerals</i> , 2011, 59, 416-432.	1.3	27
18	Pyroxene Weathering to Smectite: Conventional and Cryo-Field Emission Scanning Electron Microscopy, Koua Bocca Ultramafic Complex, Ivory Coast. <i>Clays and Clay Minerals</i> , 2008, 56, 112-127.	1.3	25

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19	Soil Characteristics Related to Weathering and Pedogenesis Across a Geomorphic Surface of Uniform Age in Michigan. <i>Physical Geography</i> , 2006, 27, 170-188.	1.4	23
20	Modal abundances of pyroxene, olivine, and mesostasis in nakhlites: Heterogeneity, variation, and implications for nakhlite emplacement. <i>Meteoritics and Planetary Science</i> , 2015, 50, 1497-1511.	1.6	21
21	Element abundances, patterns, and mobility in Nakhlite Miller Range 03346 and implications for aqueous alteration. <i>Geochimica Et Cosmochimica Acta</i> , 2013, 112, 208-225.	3.9	17
22	Chapter 15 Scanning Electron Microscopy of Garnet from Southern Michigan Soils: Etching Rates and Inheritance of Pre-Glacial and Pre-Pedogenic Grain-Surface Textures. <i>Developments in Sedimentology</i> , 2007, , 413-432.	0.5	15
23	Along-track compositional and textural variation in extensively melted grains returned from comet 81P/Wild 2 by the Stardust mission: Implications for capture-melting process. <i>Meteoritics and Planetary Science</i> , 2009, 44, 1519-1540.	1.6	15
24	Aqueous Alteration in Martian Meteorites: Comparing Mineral Relations in Igneous-Rock Weathering of Martian Meteorites and in the Sedimentary Cycle of Mars. , 2012, , 97-117.		15
25	Rates of Biotite Weathering, and Clay Mineral Transformation and Neoformation, Determined from Watershed Geochemical Mass-Balance Methods for the Coweeta Hydrologic Laboratory, Southern Blue Ridge Mountains, North Carolina, USA. <i>Aquatic Geochemistry</i> , 2014, 20, 203-224.	1.3	14
26	Laboratory and Homework Exercises in the Geochemical Kinetics of Mineral-Water Reaction: Rate Law, Arrhenius Activation Energy, and the Rate-Determining Step in the Dissolution of Halite. <i>Journal of Geoscience Education</i> , 2004, 52, 52-59.	1.4	11
27	Microdenticles on naturally weathered hornblende. <i>Applied Geochemistry</i> , 2011, 26, 1594-1596.	3.0	10
28	Weathering of Almandine Garnet: Influence of Secondary Minerals on the Rate-Determining Step, and Implications for Regolith-Scale Al Mobilization. <i>Clays and Clay Minerals</i> , 2013, 61, 34-56.	1.3	10
29	Stoichiometric reactions describing serpentinization of anhydrous primary silicates: A critical appraisal, with application to aqueous alteration of chondrule silicates in CM carbonaceous chondrites. <i>Clays and Clay Minerals</i> , 2014, 62, 126-136.	1.3	9
30	Aqueous corrosion of olivine in the Mars meteorite Miller Range (MIL) 03346 during Antarctic weathering: Implications for water on Mars. <i>Geochimica Et Cosmochimica Acta</i> , 2016, 180, 126-145.	3.9	9
31	Thermal metamorphism of CM chondrites: A dehydroxylation-based peak-temperature thermometer and implications for sample return from asteroids Ryugu and Bennu. <i>Meteoritics and Planetary Science</i> , 2021, 56, 546-585.	1.6	9
32	Ephemeral liquid water at the surface of the martian North Polar Residual Cap: Results of numerical modelling. <i>Icarus</i> , 2015, 262, 131-139.	2.5	8
33	The size distributions of nanoscale Fe-Ni-S droplets in Stardust melted grains from comet 81P/Wild 2. <i>Meteoritics and Planetary Science</i> , 2012, 47, 594-612.	1.6	7
34	Physical, Chemical, and Petrological Characteristics of Chondritic Materials and Their Relationships to Small Solar System Bodies. , 2018, , 59-204.		7
35	Preliminary quantification of a shape model for etch-pits formed during natural weathering of olivine. <i>Applied Geochemistry</i> , 2011, 26, S112-S114.	3.0	5
36	The nature of the CM parent asteroid regolith based on cosmic ray exposure ages. <i>Meteoritics and Planetary Science</i> , 2021, 56, 49-55.	1.6	5

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37	The fall, recovery, classification, and initial characterization of the Hamburg, Michigan H4 chondrite. <i>Meteoritics and Planetary Science</i> , 2020, 55, 2341-2359.	1.6	4
38	Fall, recovery and description of the Coleman chondrite. <i>Meteoritics and Planetary Science</i> , 1997, 32, 781-790.	1.6	2
39	The Worden meteorite: A new ordinary chondrite fall from Michigan, USA. <i>Meteoritics and Planetary Science</i> , 2002, 37, B25-B29.	1.6	1
40	Crystallography on Mars: Curiosity's Bragging right. <i>American Mineralogist</i> , 2018, 103, 837-838.	1.9	0