

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
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40
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40
docs citations

40
times ranked

3071
citing authors

| # | ARTICLE | IF | CITATIONS |
|----|--|-----|-----------|
| 1 | 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 |
| 2 | 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 |
| 3 | 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 |
| 4 | Physical, Chemical, and Petrological Characteristics of Chondritic Materials and Their Relationships to Small Solar System Bodies. , 2018, , 59-204. | | 7 |
| 5 | Crystallography on Mars: Curiosity's Bragging right. <i>American Mineralogist</i> , 2018, 103, 837-838. | 1.9 | 0 |
| 6 | 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 |
| 7 | 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 |
| 8 | 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 |
| 9 | Replacement of olivine by serpentine in the Queen Alexandra Range 93005 carbonaceous chondrite (CM2): Reactant-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 |
| 10 | 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 |
| 11 | 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 |
| 12 | 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 |
| 13 | Element abundances, patterns, and mobility in Nakhilite Miller Range 03346 and implications for aqueous alteration. <i>Geochimica Et Cosmochimica Acta</i> , 2013, 112, 208-225. | 3.9 | 17 |
| 14 | 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 |
| 15 | 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 |
| 16 | Replacement of olivine by serpentine in the carbonaceous chondrite Nogoya (CM2). <i>Geochimica Et Cosmochimica Acta</i> , 2012, 87, 117-135. | 3.9 | 50 |
| 17 | The size distributions of nanoscale Fe-Ni droplets in Stardust melted grains from comet 81P/Wild 2. <i>Meteoritics and Planetary Science</i> , 2012, 47, 594-612. | 1.6 | 7 |
| 18 | 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 |

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|----|---|------|-----------|
| 19 | Microdenticles on naturally weathered hornblende. <i>Applied Geochemistry</i> , 2011, 26, 1594-1596. | 3.0 | 10 |
| 20 | Evaporite formation during weathering of Antarctic meteoritesâ€”A weathering census analysis based on the ANSMET database. <i>Meteoritics and Planetary Science</i> , 2011, 46, 443-458. | 1.6 | 27 |
| 21 | 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 |
| 22 | Dissolution of olivine during natural weathering. <i>Geochimica Et Cosmochimica Acta</i> , 2009, 73, 6098-6113. | 3.9 | 73 |
| 23 | Along-track compositional and textural variation in extensively melted grains returned from comet 81P/Wild 2 by the Stardust mission: Implications for captureâ€”melting process. <i>Meteoritics and Planetary Science</i> , 2009, 44, 1519-1540. | 1.6 | 15 |
| 24 | 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 |
| 25 | Comparing Wild 2 particles to chondrites and IDPs. <i>Meteoritics and Planetary Science</i> , 2008, 43, 261-272. | 1.6 | 136 |
| 26 | 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 |
| 27 | 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 |
| 28 | 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 |
| 29 | Comet 81P/Wild 2 Under a Microscope. <i>Science</i> , 2006, 314, 1711-1716. | 12.6 | 848 |
| 30 | Mineralogy and Petrology of Comet 81P/Wild 2 Nucleus Samples. <i>Science</i> , 2006, 314, 1735-1739. | 12.6 | 589 |
| 31 | 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 |
| 32 | 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 |
| 33 | 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 |
| 34 | 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 |
| 35 | 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 |
| 36 | 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 |

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|----|--|-----|-----------|
| 37 | 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 |
| 38 | The Worden meteorite: A new ordinary chondrite fall from Michigan, USA. <i>Meteoritics and Planetary Science</i> , 2002, 37, B25-B29. | 1.6 | 1 |
| 39 | Fall, recovery and description of the Coleman chondrite. <i>Meteoritics and Planetary Science</i> , 1997, 32, 781-790. | 1.6 | 2 |
| 40 | 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 |