# William B Brinckerhoff

List of Publications by Year
in descending order



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|---|---|---|---|
| 80 papers | 7,862 citations | 136950 32 h-index | 118850 62 g-index |
| 83 all docs | 83 docs citations | 83 times ranked | 4936 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 | Mineralogy of a Mudstone at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1243480. | 12.6 | 508 |
| 3 | Marsâ€™ Surface Radiation Environment Measured with the Mars Science Laboratoryâ€™s Curiosity Rover. Science, 2014, 343, 1244797. | 12.6 | 475 |
| 4 | The Sample Analysis at Mars Investigation and Instrument Suite. Space Science Reviews, 2012, 170, 401-478. | 8.1 | 435 |
| 5 | Organic molecules in the Sheepbed Mudstone, Gale Crater, Mars. Journal of Geophysical Research E: Planets, 2015, 120, 495-514. | 3.6 | 375 |
| 6 | Habitability on Early Mars and the Search for Biosignatures with the ExoMars Rover. Astrobiology, 2017, 17, 471-510. | 3.0 | 371 |
| 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 | Evidence for perchlorates and the origin of chlorinated hydrocarbons detected by SAM at the Rocknest aeolian deposit in Gale Crater. Journal of Geophysical Research E: Planets, 2013, 118, 1955-1973. | 3.6 | 306 |
| 13 | Curiosity at Gale Crater, Mars: Characterization and Analysis of the Rocknest Sand Shadow. Science, 2013, 341, 1239505. | 12.6 | 280 |
| 14 | Elemental Geochemistry of Sedimentary Rocks at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1244734. | 12.6 | 246 |
| 15 | Isotope Ratios of H, C, and O in CO <sub>2</sub> and H <sub>2</sub> O of the Martian Atmosphere. Science, 2013, 341, 260-263. | 12.6 | 241 |
| 16 | In Situ Radiometric and Exposure Age Dating of the Martian Surface. Science, 2014, 343, 1247166. | 12.6 | 224 |
| 17 | Soil Diversity and Hydration as Observed by ChemCam at Gale Crater, Mars. Science, 2013, 341, 1238670. | 12.6 | 215 |
| 18 | The NASA Roadmap to Ocean Worlds. Astrobiology, 2019, 19, 1-27. | 3.0 | 209 |

| # | Article | IF | Citations |
|---|---|---|---|
| 19 | The Mars Organic Molecule Analyzer (MOMA) Instrument: Characterization of Organic Material in Martian Sediments. Astrobiology, 2017, 17, 655-685. | 3.0 | 185 |
| 20 | The Petrochemistry of Jake_M: A Martian Mugearite. Science, 2013, 341, 1239463. | 12.6 | 134 |
| 21 | Low Upper Limit to Methane Abundance on Mars. Science, 2013, 342, 355-357. | 12.6 | 103 |
| 22 | Science Potential from a Europa Lander. Astrobiology, 2013, 13, 740-773. | 3.0 | 98 |
| 23 | Magnetic Dipoleâˆ’Dipole Interactions and Single-Ion Anisotropy:â€‰ Revisiting a Classical Approach to Magnets. Chemistry of Materials, 1997, 9, 2156-2163. | 6.7 | 89 |
| 24 | Science Goals and Objectives for the Dragonfly Titan Rotorcraft Relocatable Lander. Planetary Science Journal, 2021, 2, 130. | 3.6 | 80 |
| 25 | Laser time-of-flight mass spectrometry for space. Review of Scientific Instruments, 2000, 71, 536-545. | 1.3 | 64 |
| 26 | Revealing the Mysteries of Venus: The DAVINCI Mission. Planetary Science Journal, 2022, 3, 117. | 3.6 | 62 |
| 27 | MOMA: the challenge to search for organics and biosignatures on Mars. International Journal of Astrobiology, 2016, 15, 239-250. | 1.6 | 52 |
| 28 | Compact twoâ€step laser timeâ€ofâ€flight mass spectrometer for <i>in situ</i> analyses of aromatic organics on planetary missions. Rapid Communications in Mass Spectrometry, 2012, 26, 2786-2790. | 1.5 | 42 |
| 29 | Science Goals and Mission Architecture of the Europa Lander Mission Concept. Planetary Science Journal, 2022, 3, 22. | 3.6 | 42 |
| 30 | Mars Organic Molecule Analyzer (MOMA) laser desorption/ionization source design and performance characterization. International Journal of Mass Spectrometry, 2017, 422, 177-187. | 1.5 | 40 |
| 31 | The next frontier for planetary and human exploration. Nature Astronomy, 2019, 3, 116-120. | 10.1 | 39 |
| 32 | Miniature time-of-flight mass spectrometer using a flexible circuitboard reflector. Rapid Communications in Mass Spectrometry, 2000, 14, 2408-2411. | 1.5 | 35 |
| 33 | Detection of Trace Organics in Mars Analog Samples Containing Perchlorate by Laser Desorption/Ionization Mass Spectrometry. Astrobiology, 2015, 15, 104-110. | 3.0 | 33 |
| 34 | Did life exist on Mars? Search for organic and inorganic signatures, one of the goals for â€œSAMâ€• (sample analysis at Mars). Advances in Space Research, 2004, 33, 2240-2245. | 2.6 | 32 |
| 35 | Magnetization and dynamics of reentrant ferrimagnetic spin-glass [MnTPP]::+[TCNE].âˆ’â‹…2PhMe. Journal of Applied Physics, 1996, 79, 6147. | 2.5 | 31 |
| 36 | Influence of trace aromatics on the chemical growth mechanisms of Titan aerosol analogues. Planetary and Space Science, 2017, 140, 27-34. | 1.7 | 27 |

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| 37 | Magnetic Ground State and its Control in Porphyrin-Based Magnets. Molecular Crystals and Liquid Crystals, 1997, 305, 321-332. | 0.3 | 24 |
| 38 | Molecular synthesis in hypervelocity impact plasmas on the primitive Earth and in interstellar clouds. Geophysical Research Letters, 2003, 30, n/a-n/a. | 4.0 | 24 |
| 39 | Radiation Tolerance of Nanopore Sequencing Technology for Life Detection on Mars and Europa. Scientific Reports, 2019, 9, 5370. | 3.3 | 23 |
| 40 | Miniature time-of-flight mass spectrometers for in situ composition studies. Acta Astronautica, 2003, 52, 397-404. | 3.2 | 22 |
| 41 | Laser Desorption Mass Spectrometry at Saturnâ€™s moon Titan. International Journal of Mass Spectrometry, 2021, 470, 116707. | 1.5 | 22 |
| 42 | Mars Organic Molecule Analyzer (MOMA) mass spectrometer for ExoMars 2018 and beyond. , 2013, , . | | 21 |
| 43 | 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 |
| 44 | Planetary Mass Spectrometry for Agnostic Life Detection in the Solar System. Frontiers in Astronomy and Space Sciences, 2021, 8, . | 2.8 | 19 |
| 45 | Development of an evolved gas-time-of-flight mass spectrometer for the Volatile Analysis by Pyrolysis of Regolith (VAPoR) instrument. International Journal of Mass Spectrometry, 2010, 295, 124-132. | 1.5 | 18 |
| 46 | Design and demonstration of the Mars Organic Molecule Analyzer (MOMA) on the ExoMars 2018 rover. , 2015, , . | | 17 |
| 47 | On the possible in situ elemental analysis of small bodies with laser ablation TOF-MS. Planetary and Space Science, 2005, 53, 817-838. | 1.7 | 14 |
| 48 | Searching for Traces of Life With the ExoMars Rover. , 2018, , 309-347. | | 14 |
| 49 | Magnetization of High-T<sub>c</sub> Molecule-Based Magnet V/TCNE/CH<sub>2</sub>Cl<sub>2</sub>. Molecular Crystals and Liquid Crystals, 1995, 272, 195-205. | 0.3 | 13 |
| 50 | Pulsed laser ablation TOF-MS analysis of planets and small bodies. Applied Physics A: Materials Science and Processing, 2004, 79, 953-956. | 2.3 | 13 |
| 51 | A miniature MEMS and NEMS enabled time-of-flight mass spectrometer for investigations in planetary science. Proceedings of SPIE, 2008, , . | 0.8 | 12 |
| 52 | The Characterization of Biosignatures in Caves Using an Instrument Suite. Astrobiology, 2017, 17, 1203-1218. | 3.0 | 11 |
| 53 | Investigating the effects of gamma radiation on selected chemicals for use in biosignature detection instruments on the surface of Jupiter's moon Europa. Planetary and Space Science, 2019, 175, 1-12. | 1.7 | 11 |
| 54 | An AOTF-LDTOF spectrometer suite for in situ organic detection and characterization. , 2011, , . | | 10 |

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|---|---|---|---|
| 55 | The laser ablation ion funnel: Sampling for in situ mass spectrometry on Mars. Planetary and Space Science, 2011, 59, 387-393. | 1.7 | 10 |
| 56 | IR resonance-enhanced organic detection with two-step laser desorption time-of-flight mass spectrometry. Icarus, 2018, 299, 15-21. | 2.5 | 10 |
| 57 | Simulation of a miniature, low-power time-of-flight mass spectrometer for in situ analysis of planetary atmospheres. Proceedings of SPIE, 2008, , . | 0.8 | 9 |
| 58 | Possible synthesis of organic molecular ions in plasmas similar to those generated in hypervelocity Impacts. International Journal of Impact Engineering, 2003, 29, 449-458. | 5.0 | 8 |
| 59 | Rapid assessment of high value samples: An AOTF-LDTOF spectrometer suite for planetary surfaces. , 2012, , . | | 8 |
| 60 | Excess of l-alanine in amino acids synthesized in a plasma torch generated by a hypervelocity meteorite impact reproduced in the laboratory. Planetary and Space Science, 2016, 131, 70-78. | 1.7 | 8 |
| 61 | A prospective microwave plasma source for <i>in situ</i> spaceflight applications. Journal of Analytical Atomic Spectrometry, 2020, 35, 2740-2747. | 3.0 | 8 |
| 62 | Carbonization in Titan Tholins: implication for low albedo on surfaces of Centaurs and trans-Neptunian objects. International Journal of Astrobiology, 2016, 15, 231-238. | 1.6 | 7 |
| 63 | Europan Molecular Indicators of Life Investigation (EMILI) for a Future Europa Lander Mission. Frontiers in Space Technologies, 2022, 2, . | 1.4 | 7 |
| 64 | A compact tandem two-step laser time-of-flight mass spectrometer for in situ analysis of non-volatile organics on planetary surfaces. , 2014, , . | | 6 |
| 65 | Molecular analyzer for Complex Refractory Organic-rich Surfaces (MACROS). , 2017, , . | | 5 |
| 66 | Unique capabilities of AC frequency scanning and its implementation on a Mars Organic Molecule Analyzer linear ion trap. Analyst, The, 2017, 142, 2109-2117. | 3.5 | 5 |
| 67 | ExoMars Mars Organic Molecule Analyzer (MOMA) Laser Desorption/Ionization Mass Spectrometry (LDI-MS) Analysis of Phototrophic Communities from a Silica-Depositing Hot Spring in Yellowstone National Park, USA. Astrobiology, 2021, 21, 1515-1525. | 3.0 | 5 |
| 68 | Non-Robotic Science Autonomy Development. , 2021, 53, . | | 5 |
| 69 | Science Autonomy and the ExoMars Mission: Machine Learning to Help Find Life on Mars. Computer, 2021, 54, 69-77. | 1.1 | 5 |
| 70 | Linear Ion Trap Mass Spectrometer (LITMS) for in situ Astrobiology. , 2019, , . | | 3 |
| 71 | Science Autonomy and Space Science: Application to the ExoMars Mission. Frontiers in Astronomy and Space Sciences, 2022, 9, . | 2.8 | 3 |
| 72 | Precision Subsampling System for Mars and Beyond. , 2010, , . | | 2 |

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|---|---|---|---|
| 73 | Precision Subsampling System for Planetary Exploration. , 2012, , . | | 2 |
| 74 | Tandem mass spectrometry on a miniaturized laser desorption time-of-flight mass spectrometer. , 2016, , . | | 2 |
| 75 | A comparative study of in situ biosignature detection spectroscopy techniques on planetary surfaces. , 2014, , . | | 1 |
| 76 | Analysis of aqueous environments by laser desorption/ionization time-of-flight mass spectrometry. , 2015, , . | | 1 |
| 77 | Advanced laser architecture for the two-step laser tandem mass spectrometer. , 2016, , . | | 1 |
| 78 | EMILI: Europan Molecular Indicators of Life Investigation. , 2018, , . | | 1 |
| 79 | Development of a compact ion trap - time-of-flight mass spectrometer for space missions. , 2021, , . | | 0 |
| 80 | Future planetary instrument capabilities made possible by micro- and nanotechnology. , 2019, , . | | 0 |