

David Baratoux

List of Publications by Year in descending order

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121
papers

7,712
citations

66343

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51608

86
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125
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125
docs citations

125
times ranked

5892
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 | The ChemCam Instrument Suite on the Mars Science Laboratory (MSL) Rover: Science Objectives and Mast Unit Description. Space Science Reviews, 2012, 170, 95-166. | 8.1 | 372 |
| 4 | Volatile, Isotope, and Organic Analysis of Martian Fines with the Mars Curiosity Rover. Science, 2013, 341, 1238937. | 12.6 | 367 |
| 5 | X-ray Diffraction Results from Mars Science Laboratory: Mineralogy of Rocknest at Gale Crater. Science, 2013, 341, 1238932. | 12.6 | 327 |
| 6 | Abundance and Isotopic Composition of Gases in the Martian Atmosphere from the Curiosity Rover. Science, 2013, 341, 263-266. | 12.6 | 327 |
| 7 | Martian Fluvial Conglomerates at Gale Crater. Science, 2013, 340, 1068-1072. | 12.6 | 326 |
| 8 | Curiosity at Gale Crater, Mars: Characterization and Analysis of the Rocknest Sand Shadow. Science, 2013, 341, 1239505. | 12.6 | 280 |
| 9 | Elemental Geochemistry of Sedimentary Rocks at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1244734. | 12.6 | 246 |
| 10 | 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 |
| 11 | Reconstructing the total shortening history of the NW Himalaya. Geochemistry, Geophysics, Geosystems, 2003, 4, . | 2.5 | 227 |
| 12 | Soil Diversity and Hydration as Observed by ChemCam at Gale Crater, Mars. Science, 2013, 341, 1238670. | 12.6 | 215 |
| 13 | Surface motion of mountain glaciers derived from satellite optical imagery. Remote Sensing of Environment, 2005, 95, 14-28. | 11.0 | 195 |
| 14 | The volcanic history of central Elysium Planitia: Implications for martian magmatism. Icarus, 2009, 204, 418-442. | 2.5 | 157 |
| 15 | The Petrochemistry of Jake_M: A Martian Mugearite. Science, 2013, 341, 1239463. | 12.6 | 134 |
| 16 | Long-Term Evolution of the Martian Crust-Mantle System. Space Science Reviews, 2013, 174, 49-111. | 8.1 | 124 |
| 17 | Orientation and distribution of recent gullies in the southern hemisphere of Mars: Observations from High Resolution Stereo Camera/Mars Express (HRSC/MEX) and Mars Orbiter Camera/Mars Global Surveyor (MOC/MGS) data. Journal of Geophysical Research, 2006, 111, . | 3.3 | 120 |
| 18 | Sinuuous gullies on Mars: Frequency, distribution, and implications for flow properties. Journal of Geophysical Research, 2010, 115, . | 3.3 | 118 |

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|----|---|------|-----------|
| 19 | Recent rapid thinning of the "Mer de Glace" glacier derived from satellite optical images. <i>Geophysical Research Letters</i> , 2004, 31, n/a-n/a. | 4.0 | 117 |
| 20 | Thermal history of Mars inferred from orbital geochemistry of volcanic provinces. <i>Nature</i> , 2011, 472, 338-341. | 27.8 | 116 |
| 21 | Igneous mineralogy at Bradbury Rise: The first ChemCam campaign at Gale crater. <i>Journal of Geophysical Research E: Planets</i> , 2014, 119, 30-46. | 3.6 | 114 |
| 22 | Seventeen years of the "La Clapière" landslide evolution analysed from ortho-rectified aerial photographs. <i>Engineering Geology</i> , 2003, 68, 123-139. | 6.3 | 98 |
| 23 | Petrological constraints on the density of the Martian crust. <i>Journal of Geophysical Research E: Planets</i> , 2014, 119, 1707-1727. | 3.6 | 91 |
| 24 | The Circum-Hellas Volcanic Province, Mars: Overview. <i>Planetary and Space Science</i> , 2009, 57, 895-916. | 1.7 | 83 |
| 25 | Late Tharsis formation and implications for early Mars. <i>Nature</i> , 2016, 531, 344-347. | 27.8 | 80 |
| 26 | Lava flow rheology: A comparison of morphological and petrological methods. <i>Earth and Planetary Science Letters</i> , 2013, 384, 109-120. | 4.4 | 79 |
| 27 | The petrological expression of early Mars volcanism. <i>Journal of Geophysical Research E: Planets</i> , 2013, 118, 59-64. | 3.6 | 76 |
| 28 | An experimental study of Hapke's modeling of natural granular surface samples. <i>Icarus</i> , 2011, 215, 313-331. | 2.5 | 74 |
| 29 | A new systematic approach using the Modified Gaussian Model: Insight for the characterization of chemical composition of olivines, pyroxenes and olivine-pyroxene mixtures. <i>Icarus</i> , 2011, 213, 404-422. | 2.5 | 63 |
| 30 | Quantifying geological processes on Mars—Results of the high resolution stereo camera (HRSC) on Mars express. <i>Planetary and Space Science</i> , 2015, 112, 53-97. | 1.7 | 63 |
| 31 | The morphologies of volcanic landforms at Central Elysium Planitia: Evidence for recent and fluid lavas on Mars. <i>Icarus</i> , 2009, 200, 39-51. | 2.5 | 59 |
| 32 | The formation of shatter cones by shock wave interference during impacting. <i>Earth and Planetary Science Letters</i> , 2003, 216, 43-54. | 4.4 | 58 |
| 33 | FRIPON: a worldwide network to track incoming meteoroids. <i>Astronomy and Astrophysics</i> , 2020, 644, A53. | 5.1 | 58 |
| 34 | The role of the wind-transported dust in slope streaks activity: Evidence from the HRSC data. <i>Icarus</i> , 2006, 183, 30-45. | 2.5 | 56 |
| 35 | Farside explorer: unique science from a mission to the farside of the moon. <i>Experimental Astronomy</i> , 2012, 33, 529-585. | 3.7 | 52 |
| 36 | Thermal history of the H-chondrite parent body: Implications for metamorphic grade and accretionary time-scales. <i>Geochimica Et Cosmochimica Acta</i> , 2013, 119, 302-321. | 3.9 | 51 |

| # | ARTICLE | IF | CITATIONS |
|----|--|------|-----------|
| 37 | Volcanic sands of Iceland –Diverse origins of aeolian sand deposits revealed at Dyngjusandur and Lambahraun. <i>Earth Surface Processes and Landforms</i> , 2011, 36, 1789-1808. | 2.5 | 50 |
| 38 | Segregation of olivine grains in volcanic sands in Iceland and implications for Mars. <i>Earth and Planetary Science Letters</i> , 2011, 310, 233-243. | 4.4 | 49 |
| 39 | Viscous flow behavior of tholeiitic and alkaline Fe-rich martian basalts. <i>Geochimica Et Cosmochimica Acta</i> , 2014, 124, 348-365. | 3.9 | 48 |
| 40 | Instrumental methods for professional and amateur collaborations in planetary astronomy. <i>Experimental Astronomy</i> , 2014, 38, 91-191. | 3.7 | 47 |
| 41 | The current state of knowledge about shatter cones: Introduction to the special issue. <i>Meteoritics and Planetary Science</i> , 2016, 51, 1389-1434. | 1.6 | 44 |
| 42 | A review of volatiles in the Martian interior. <i>Meteoritics and Planetary Science</i> , 2016, 51, 1935-1958. | 1.6 | 43 |
| 43 | The revised tectonic history of Tharsis. <i>Earth and Planetary Science Letters</i> , 2018, 488, 126-133. | 4.4 | 43 |
| 44 | Mineralogy of recent volcanic plains in the Tharsis region, Mars, and implications for platy-ridged flow composition. <i>Earth and Planetary Science Letters</i> , 2010, 294, 440-450. | 4.4 | 42 |
| 45 | Martian perched craters and large ejecta volume: Evidence for episodes of deflation in the northern lowlands. <i>Meteoritics and Planetary Science</i> , 2006, 41, 1647-1658. | 1.6 | 36 |
| 46 | Power and duration of impact flashes on the Moon: Implication for the cause of radiation. <i>Icarus</i> , 2012, 218, 115-124. | 2.5 | 36 |
| 47 | Simulation of the capabilities of an orbiter for monitoring the entry of interplanetary matter into the terrestrial atmosphere. <i>Planetary and Space Science</i> , 2014, 103, 238-249. | 1.7 | 36 |
| 48 | Shape, rheology and emplacement times of small martian shield volcanoes. <i>Journal of Volcanology and Geothermal Research</i> , 2009, 185, 47-68. | 2.1 | 33 |
| 49 | Thermal properties of lobate ejecta in Syrtis Major, Mars: Implications for the mechanisms of formation. <i>Journal of Geophysical Research</i> , 2005, 110, . | 3.3 | 32 |
| 50 | An extended field of crater-shaped structures in the Gilf Kebir region, Egypt: Observations and hypotheses about their origin. <i>Journal of African Earth Sciences</i> , 2006, 46, 281-299. | 2.0 | 32 |
| 51 | A swarm of small shield volcanoes on Syria Planum, Mars. <i>Journal of Geophysical Research</i> , 2008, 113, . | 3.3 | 32 |
| 52 | An instability mechanism in the formation of the Martian lobate craters and the implications for the rheology of ejecta. <i>Geophysical Research Letters</i> , 2002, 29, 51-1-51-4. | 4.0 | 31 |
| 53 | Mineralogical structure of the subsurface of Syrtis Major from OMEGA observations of lobate ejecta blankets. <i>Journal of Geophysical Research</i> , 2007, 112, . | 3.3 | 31 |
| 54 | The Tharsis mantle source of depleted shergottites revealed by 90 million impact craters. <i>Nature Communications</i> , 2021, 12, 6352. | 12.8 | 31 |

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|----|--|------|-----------|
| 55 | The formation of floor-fractured craters in Xanthe Terra. <i>Icarus</i> , 2010, 207, 248-264. | 2.5 | 29 |
| 56 | Identification of a new outflow channel on Mars in Syrtis Major Planum using HRSC/MEx data. <i>Planetary and Space Science</i> , 2008, 56, 1030-1042. | 1.7 | 28 |
| 57 | Gusev photometric variability as seen from orbit by HRSC/Mars-express. <i>Icarus</i> , 2008, 197, 403-428. | 2.5 | 28 |
| 58 | Contribution of Mars Odyssey GRS at Central Elysium Planitia. <i>Icarus</i> , 2009, 200, 19-29. | 2.5 | 28 |
| 59 | Size and Shape Constraints of (486958) Arrokoth from Stellar Occultations. <i>Astronomical Journal</i> , 2020, 159, 130. | 4.7 | 25 |
| 60 | A thick crustal block revealed by reconstructions of early Mars highlands. <i>Nature Geoscience</i> , 2020, 13, 105-109. | 12.9 | 24 |
| 61 | Mars: a small terrestrial planet. <i>Astronomy and Astrophysics Review</i> , 2016, 24, 1. | 25.5 | 22 |
| 62 | Thermal infrared image analysis of a quiescent cone on Piton de la Fournaise volcano: Evidence of convective air flow within an unconsolidated soil. <i>Journal of Volcanology and Geothermal Research</i> , 2009, 183, 228-244. | 2.1 | 21 |
| 63 | Secular cooling and crystallization of partially molten Archaean continental crust over 1 Ga. <i>Comptes Rendus - Geoscience</i> , 2019, 351, 562-573. | 1.2 | 21 |
| 64 | New U–Pb Baddeleyite Ages of Mafic Dyke Swarms of the West African and Amazonian Cratons: Implication for Their Configuration in Supercontinents Through Time. <i>Springer Geology</i> , 2019, , 263-314. | 0.3 | 18 |
| 65 | Surface roughness and geological mapping at subhectometer scale from the High Resolution Stereo Camera onboard Mars Express. <i>Icarus</i> , 2007, 191, 38-51. | 2.5 | 17 |
| 66 | Gamma-ray constraints on the chemical composition of the martian surface in the Tharsis region: A signature of partial melting of the mantle?. <i>Journal of Volcanology and Geothermal Research</i> , 2009, 185, 116-122. | 2.1 | 17 |
| 67 | Calibration of fish-eye lens and error estimation on fireball trajectories: application to the FRIPON network. <i>Astronomy and Astrophysics</i> , 2019, 627, A78. | 5.1 | 17 |
| 68 | Hydrothermal alteration in basalts from Vargeão impact structure, south Brazil, and implications for recognition of impact-induced hydrothermalism on Mars. <i>Icarus</i> , 2015, 252, 347-365. | 2.5 | 16 |
| 69 | Impact cratering rate consistency test from ages of layered ejecta on Mars. <i>Planetary and Space Science</i> , 2020, 180, 104755. | 1.7 | 16 |
| 70 | In situ U/Pb dating of impact-produced zircons from the Vargeão Dome (Southern Brazil). <i>Meteoritics and Planetary Science</i> , 2013, 48, 420-431. | 1.6 | 15 |
| 71 | The role of sulfides in the fractionation of highly siderophile and chalcophile elements during the formation of martian shergottite meteorites. <i>Geochimica Et Cosmochimica Acta</i> , 2017, 210, 1-24. | 3.9 | 15 |
| 72 | Evidence of liquid water in recent debris avalanche on Mars. <i>Geophysical Research Letters</i> , 2002, 29, 60-1. | 4.0 | 14 |

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|----|---|------|-----------|
| 73 | Magmatic intrusions and deglaciation at mid-latitude in the northern plains of Mars. <i>Icarus</i> , 2013, 225, 602-613. | 2.5 | 14 |
| 74 | Magmatic controls on the genesis of Ni±Cu (PGE) sulphide mineralisation on Mars. <i>Ore Geology Reviews</i> , 2015, 65, 400-412. | 2.7 | 14 |
| 75 | Magnetic fabric of Araguainha complex impact structure (Central Brazil): Implications for deformation mechanisms and central uplift formation. <i>Earth and Planetary Science Letters</i> , 2012, 331-332, 347-359. | 4.4 | 13 |
| 76 | First Lunar Flashes Observed from Morocco (ILIAD Network): Implications for Lunar Seismology. <i>Earth, Moon and Planets</i> , 2015, 115, 1-21. | 0.6 | 13 |
| 77 | The Agoudal (High Atlas Mountains, Morocco) shatter cone conundrum: A recent meteorite fall onto the remnant of an impact site. <i>Meteoritics and Planetary Science</i> , 2016, 51, 1497-1518. | 1.6 | 13 |
| 78 | High-resolution digital elevation models derived from Viking Orbiter images: Method and comparison with Mars Orbiter Laser Altimeter Data. <i>Journal of Geophysical Research</i> , 2001, 106, 32927-32941. | 3.3 | 12 |
| 79 | The redistribution of thorium, uranium, potassium by magmatic and hydrothermal processes versus surface processes in the Saraya Batholith (Eastern Senegal): Insights from airborne radiometrics data and topographic roughness. <i>Journal of Geochemical Exploration</i> , 2020, 219, 106633. | 3.2 | 12 |
| 80 | Numerical modelling of erosion and assimilation of sulfur-rich substrate by martian lava flows: Implications for the genesis of massive sulfide mineralization on Mars. <i>Icarus</i> , 2017, 296, 257-274. | 2.5 | 11 |
| 81 | Multi-scale distribution of Potassium, Thorium and Uranium in Paleoproterozoic granites from eastern Senegal. <i>Journal of African Earth Sciences</i> , 2018, 148, 30-51. | 2.0 | 11 |
| 82 | Development in astronomy and space science in Africa. <i>Nature Astronomy</i> , 2018, 2, 507-510. | 10.1 | 11 |
| 83 | Mapping Artisanal and Small-scale Gold Mining in Senegal Using Sentinel 2 Data. <i>GeoHealth</i> , 2020, 4, e2020GH000310. | 4.0 | 11 |
| 84 | Early crustal processes revealed by the ejection site of the oldest martian meteorite. <i>Nature Communications</i> , 2022, 13, . | 12.8 | 11 |
| 85 | Thermal analysis of fractures at Cerberus Fossae, Mars: Detection of air convection in the porous debris apron. <i>Icarus</i> , 2011, 214, 433-446. | 2.5 | 10 |
| 86 | Thermal anomalies on pit craters and sinuous rilles of Arsia Mons: Possible signatures of atmospheric gas circulation in the volcano. <i>Journal of Geophysical Research</i> , 2012, 117, . | 3.3 | 8 |
| 87 | Effects of environmental factors on the monitoring of environmental radioactivity by airborne gamma-ray spectrometry. <i>Journal of Environmental Radioactivity</i> , 2021, 237, 106695. | 1.7 | 8 |
| 88 | The variability of ruthenium in chromite from chassignite and olivine±phyric shergottite meteorites: New insights into the behavior of PGE and sulfur in Martian magmatic systems. <i>Meteoritics and Planetary Science</i> , 2017, 52, 333-350. | 1.6 | 7 |
| 89 | Electric potential anomaly induced by humid air convection within Piton de La Fournaise volcano, La Réunion Island. <i>Geothermics</i> , 2017, 65, 81-98. | 3.4 | 7 |
| 90 | Bosumtwi impact structure, Ghana: Evidence for fluidized emplacement of the ejecta. <i>Meteoritics and Planetary Science</i> , 2019, 54, 2541-2556. | 1.6 | 7 |

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| 91 | Africa Initiative for Planetary and Space Sciences. <i>Eos</i> , 2017, , . | 0.1 | 6 |
| 92 | Evolution of the Koma Bangou Gold Panning Site (Niger) From 1984 to 2020 Using Landsat Imagery. <i>Earth and Space Science</i> , 2021, 8, . | 2.6 | 6 |
| 93 | Prospecting for possible impact structures in Morocco. <i>Journal of African Earth Sciences</i> , 2015, 112, 339-352. | 2.0 | 5 |
| 94 | Morphometric analysis and classification of the three-dimensional geometry of shatter cones. <i>Meteoritics and Planetary Science</i> , 2016, 51, 1460-1476. | 1.6 | 5 |
| 95 | New models for geoscience higher education in West Africa. <i>Journal of African Earth Sciences</i> , 2018, 148, 99-108. | 2.0 | 5 |
| 96 | Multi-scale spatial distribution of K, Th and U in an Archaean potassic granite: a case study from the Heerenveen batholith, Barberton Granite-Greenstone Terrain, South Africa. <i>South African Journal of Geology</i> , 2021, 124, 53-86. | 1.2 | 5 |
| 97 | Has the impact flux of small and large asteroids varied through time on Mars, the Earth and the Moon?. <i>Earth and Planetary Science Letters</i> , 2022, 579, 117362. | 4.4 | 5 |
| 98 | Online Mars digital elevation model derived from profiles. <i>Eos</i> , 2003, 84, 583-583. | 0.1 | 4 |
| 99 | Effects of ejecta accumulation on the crater population of asteroid 433 Eros. <i>Journal of Geophysical Research</i> , 2009, 114, . | 3.3 | 4 |
| 100 | Development and Evolution of the Size of Polygonal Fracture Systems during Fluid-Solid Separation in Clay-Rich Deposits. <i>Journal of Earth Science (Wuhan, China)</i> , 2018, 29, 1319-1334. | 3.2 | 4 |
| 101 | Long-Term Evolution of the Martian Crust-Mantle System. <i>Space Sciences Series of ISSI</i> , 2012, , 49-111. | 0.0 | 4 |
| 102 | The State of Planetary and Space Sciences in Africa. <i>Eos</i> , 2017, , . | 0.1 | 4 |
| 103 | The Second Arab Impact Cratering and Astrogeology Conference, Casablanca, 14-20 November 2011 "A bridge between geoscientists and astronomers. <i>Meteoritics and Planetary Science</i> , 2012, 47, 1098-1103. | 1.6 | 3 |
| 104 | Geological and geophysical studies of the Agoudal impact structure (Central High Atlas, Morocco): New evidence for crater size and age. <i>Meteoritics and Planetary Science</i> , 2019, 54, 2483-2509. | 1.6 | 3 |
| 105 | The origin of the potassium-rich annular zones at the Bosumtwi impact structure, Ghana, investigated by field study, radiometric analysis, and first cosmogenic nuclide data. <i>Meteoritics and Planetary Science</i> , 2022, 57, 702-729. | 1.6 | 3 |
| 106 | Recent expansion of artisanal gold mining along the Bandama River (Côte d'Ivoire). <i>International Journal of Applied Earth Observation and Geoinformation</i> , 2022, 112, 102873. | 1.9 | 3 |
| 107 | Properties of craters on the Achaia region of Asteroid (21) Lutetia. <i>Icarus</i> , 2015, 247, 137-149. | 2.5 | 2 |
| 108 | The 2015 peer reviewer appreciation. <i>Journal of Geophysical Research E: Planets</i> , 2016, 121, 108-110. | 3.6 | 2 |

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|-----|--|-----|-----------|
| 109 | The fourth Arab Impact Cratering and Astrogeology Conference (<scp>AICAC IV</scp>), April 9â€“12, 2017, Algiers (Algeria). Meteoritics and Planetary Science, 2017, 52, 2067-2071. | 1.6 | 2 |
| 110 | Systematic survey of K, Th, and U signatures in airborne radiometric data from Australian meteorite impact structures: Possible causes of circular features and implications. , 2021, , 373-405. | | 2 |
| 111 | The ChemCam Instrument Suite on the Mars Science Laboratory (MSL) Rover: Science Objectives and Mast Unit Description. , 2012, , 95-166. | | 2 |
| 112 | The Impact of Measurement Scale on the Univariate Statistics of K, Th, and U in the Earth Crust. Earth and Space Science, 2021, 8, e2021EA001786. | 2.6 | 1 |
| 113 | Shatter Cone. , 2014, , 1-4. | | 1 |
| 114 | Nova Colinas, MaranhÃ£o State: A newly confirmed, complex impact structure in Brazil. Meteoritics and Planetary Science, 0, , . | 1.6 | 1 |
| 115 | Appreciation of Peer Reviewers for 2014. Journal of Geophysical Research E: Planets, 2015, 120, 359-361. | 3.6 | 0 |
| 116 | Twenty five years of planetary science: Discoveries and new questions. Journal of Geophysical Research E: Planets, 2016, 121, 1829-1830. | 3.6 | 0 |
| 117 | Meteor Detection from the Fireball Moroccan Network: First Orbital Results and Links to Parent Bodies. Astronomy Reports, 2019, 63, 619-632. | 0.9 | 0 |
| 118 | Thank You to Our 2018 Peer Reviewers. Journal of Geophysical Research E: Planets, 2019, 124, 867-870. | 3.6 | 0 |
| 119 | In Appreciation of Our 2019 Peer Reviewers. Journal of Geophysical Research E: Planets, 2020, 125, e2020JE006420. | 3.6 | 0 |
| 120 | Shatter Cone. , 2015, , 1918-1920. | | 0 |
| 121 | Thank You to Our 2021 Reviewers. Earth and Space Science, 2022, 9, . | 2.6 | 0 |