Javier Gomez-Elvira

List of Publications by Year
in descending order

74 papers	7,945 citations	81900 39 h-index	95266 68 g-index
76 all docs	76 docs citations	76 times ranked	4950 citing authors

#	Article	IF	Citations
1	The dynamic atmospheric and aeolian environment of Jezero crater, Mars. Science Advances, 2022, 8, .	10.3	47
2	A multiplex antigen microarray for simultaneous IgG and IgM detection against SARSâ€CoVâ€2 reveals higher seroprevalence than reported. Microbial Biotechnology, 2021, 14, 1228-1236.	4.2	11
3	The Complex Molecules Detector (CMOLD): A Fluidic-Based Instrument Suite to Search for (Bio)chemical Complexity on Mars and Icy Moons. Astrobiology, 2020, 20, 1076-1096.	3.0	16
4	Introductionâ€"Centro de AstrobiologÃa: 20 Years Building Astrobiology. Astrobiology, 2020, 20, 1025-1028.	3.0	2
5	Joint Europa Mission (JEM): a multi-scale study of Europa to characterize its habitability and search for extant life. Planetary and Space Science, 2020, 193, 104960.	1.7	15
6	The atmosphere of Mars as observed by InSight. Nature Geoscience, 2020, 13, 190-198.	12.9	161
7	Advective Fluxes in the Martian Regolith as a Mechanism Driving Methane and Other Trace Gas Emissions to the Atmosphere. Geophysical Research Letters, 2020, 47, e2019GL085694.	4.0	9
8	Effects of the MY34/2018 Global Dust Storm as Measured by MSL REMS in Gale Crater. Journal of Geophysical Research E: Planets, 2019, 124, 1899-1912.	3.6	40
9	Gale surface wind characterization based on the Mars Science Laboratory REMS dataset. Part I: Wind retrieval and Gale's wind speeds and directions. Icarus, 2019, 319, 909-925.	2.5	45
10	InSight Auxiliary Payload Sensor Suite (APSS). Space Science Reviews, 2019, 215, 1.	8.1	104
11	Planetary Protection and the astrobiological exploration of Mars: Proactive steps in moving forward. Advances in Space Research, 2019, 63, 1491-1497.	2.6	11
12	Mars Science Laboratory Observations of the 2018/Mars Year 34 Global Dust Storm. Geophysical Research Letters, 2019, 46, 71-79.	4.0	138
13	Gale surface wind characterization based on the Mars Science Laboratory REMS dataset. Part II: Wind probability distributions. Icarus, 2019, 319, 645-656.	2.5	36
14	Experimental and Numerical Characterization of the Flow Around the Mars 2020 Rover. Journal of Spacecraft and Rockets, 2018, 55, 1136-1143.	1.9	6
15	Background levels of methane in Marsâ€™ atmosphere show strong seasonal variations. Science, 2018, 360, 1093-1096.	12.6	224
16	Analysis of wind-induced dynamic pressure fluctuations during one and a half Martian years at Gale Crater. Icarus, 2017, 288, 78-87.	2.5	15
17	Winds measured by the Rover Environmental Monitoring Station (REMS) during the Mars Science Laboratory (MSL) rover's Bagnold Dunes Campaign and comparison with numerical modeling using MarsWRF. Icarus, 2017, 291, 203-231.	2.5	119
18	Likely frost events at Gale crater: Analysis from MSL/REMS measurements. Icarus, 2016, 280, 93-102.	2.5	44

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19	The meteorology of Gale Crater as determined from Rover Environmental Monitoring Station observations and numerical modeling. Part II: Interpretation. Icarus, 2016, 280, 114-138.	2.5	81
20	The meteorology of Gale crater as determined from rover environmental monitoring station observations and numerical modeling. Part I: Comparison of model simulations with observations. Icarus, 2016, 280, 103-113.	2.5	54
21	Evidence for indigenous nitrogen in sedimentary and aeolian deposits from the Curiosity rover investigations at Gale crater, Mars. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 4245-4250.	7.1	172
22	Mars Science Laboratory relative humidity observations: Initial results. Journal of Geophysical Research E: Planets, 2014, 119, 2132-2147.	3.6	75
23	Comparison of Martian surface ionizing radiation measurements from MSLâ€RAD with Badhwarâ€O'Neill 2011/HZETRN model calculations. Journal of Geophysical Research E: Planets, 2014, 119, 1311-1321.	3.6	42
24	Diurnal variations of energetic particle radiation at the surface of Mars as observed by the Mars Science Laboratory Radiation Assessment Detector. Journal of Geophysical Research E: Planets, 2014, 119, 1345-1358.	3.6	44
25	Curiosity's rover environmental monitoring station: Overview of the first 100 sols. Journal of Geophysical Research E: Planets, 2014, 119, 1680-1688.	3.6	112
26	Volatile and Organic Compositions of Sedimentary Rocks in Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1245267.	12.6	323
27	A Habitable Fluvio-Lacustrine Environment at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1242777.	12.6	687
28	Mineralogy of a Mudstone at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1243480.	12.6	508
29	Marsâ€™ Surface Radiation Environment Measured with the Mars Science Laboratoryâ€™s Curiosity Rover. Science, 2014, 343, 1244797.	12.6	475
30	Elemental Geochemistry of Sedimentary Rocks at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1244734.	12.6	246
31	Preliminary interpretation of the REMS pressure data from the first 100 sols of the MSL mission. Journal of Geophysical Research E: Planets, 2014, 119, 440-453.	3.6	80
32	Observations and preliminary science results from the first 100 sols of MSL Rover Environmental Monitoring Station ground temperature sensor measurements at Gale Crater. Journal of Geophysical Research E: Planets, 2014, 119, 745-770.	3.6	67
33	Pressure observations by the Curiosity rover: Initial results. Journal of Geophysical Research E: Planets, 2014, 119, 82-92.	3.6	84
34	Surface energy budget and thermal inertia at Gale Crater: Calculations from groundâ€based measurements. Journal of Geophysical Research E: Planets, 2014, 119, 1822-1838.	3.6	46
35	FRISER-IRMIX Database: A Web-Based Support System with Implications in Planetary Mineralogical Studies, Ground Temperature Measurements and Astrobiology. Lecture Notes in Earth System Sciences, 2014, , 783-786.	0.6	0
36	X-ray Diffraction Results from Mars Science Laboratory: Mineralogy of Rocknest at Gale Crater. Science, 2013, 341, 1238932.	12.6	327

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37	Curiosity at Gale Crater, Mars: Characterization and Analysis of the Rocknest Sand Shadow. Science, 2013, 341, 1239505.	12.6	280
38	Abundance and Isotopic Composition of Gases in the Martian Atmosphere from the Curiosity Rover. Science, 2013, 341, 263-266.	12.6	327
39	Volatile, Isotope, and Organic Analysis of Martian Fines with the Mars Curiosity Rover. Science, 2013, 341, 1238937.	12.6	367
40	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
41	The Petrochemistry of Jake_M: A Martian Mugearite. Science, 2013, 341, 1239463.	12.6	134
42	Soil Diversity and Hydration as Observed by ChemCam at Gale Crater, Mars. Science, 2013, 341, 1238670.	12.6	215
43	Mars Science Laboratory Mission and Science Investigation. Space Science Reviews, 2012, 170, 5-56.	8.1	650
44	REMS: The Environmental Sensor Suite for the Mars Science Laboratory Rover. Space Science Reviews, 2012, 170, 583-640.	8.1	247
45	Temperature gradient distribution in permafrost active layer, using a prototype of the ground temperature sensor (REMS-MSL) on deception island (Antarctica). Cold Regions Science and Technology, 2012, 72, 23-32.	3.5	12
46	Mars Science Laboratory Mission and Science Investigation. , 2012, , 5-56.		23
47	A Microbial Oasis in the Hypersaline Atacama Subsurface Discovered by a Life Detector Chip: Implications for the Search for Life on Mars. Astrobiology, 2011, 11, 969-996.	3.0	140
48	Classification of Modern and Old RÃo Tinto Sedimentary Deposits Through the Biomolecular Record Using a Life Marker Biochip: Implications for Detecting Life on Mars. Astrobiology, 2011, 11, 29-44.	3.0	24
49	Astrobiological Field Campaign to a Volcanosedimentary Mars Analogue Methane Producing Subsurface Protected Ecosystem: Imuruk Lake (Alaska). Advances in Astronomy, 2011, 2011, 1-8.	1.1	0
50	Infrared temperature measurement uncertainty for unchopped thermopile in presence of case thermal gradients. Infrared Physics and Technology, 2011, 54, 75-83.	2.9	14
51	SOLID3: A Multiplex Antibody Microarray-Based Optical Sensor Instrument forIn SituLife Detection in Planetary Exploration. Astrobiology, 2011, 11, 15-28.	3.0	104
52	Pyrometer model based on sensor physical structure and thermal operation. Applied Thermal Engineering, 2010, 30, 2403-2411.	6.0	12
53	The Rover Environmental Monitoring Station Ground Temperature Sensor: A Pyrometer for Measuring Ground Temperature on Mars. Sensors, 2010, 10, 9211-9231.	3.8	40
54	An Autonomous System for the Locomotion of a Hexapod Exploration Robot. , 2009, , .		0

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55	FTIR reflectance of selected minerals and their mixtures: implications for ground temperature-sensor monitoring on Mars surface environment (NASA/MSL-Rover Environmental Monitoring Station). Journal of Environmental Monitoring, 2009, 11, 1428.	2.1	8
56	REMS GTS: a pyrometer for Mars ground temperature measurement. Proceedings of SPIE, 2009, , .	0.8	1
57	Protein Microarrays-Based Strategies for Life Detection in Astrobiology. Space Science Reviews, 2008, 135, 293-311.	8.1	31
58	â€œStrategies of Life Detectionâ€• Summary and Outlook. Space Science Reviews, 2008, 135, 371-380.	8.1	6
59	The 2005 MARTE Robotic Drilling Experiment in RÃo Tinto, Spain: Objectives, Approach, and Results of a Simulated Mission to Search for Life in the Martian Subsurface. Astrobiology, 2008, 8, 921-945.	3.0	52
60	SOLID2: An Antibody Array-Based Life-Detector Instrument in a Mars Drilling Simulation Experiment (MARTE). Astrobiology, 2008, 8, 987-999.	3.0	63
61	A 200-Antibody Microarray Biochip for Environmental Monitoring: Searching for Universal Microbial Biomarkers through Immunoprofiling. Analytical Chemistry, 2008, 80, 7970-7979.	6.5	83
62	Underground Habitats in the RÃo Tinto Basin: A Model for Subsurface Life Habitats on Mars. Astrobiology, 2008, 8, 1023-1047.	3.0	85
63	The Subsurface Geology of RÃo Tinto: Material Examined During a Simulated Mars Drilling Mission for the Mars Astrobiology Research and Technology Experiment (MARTE). Astrobiology, 2008, 8, 1013-1021.	3.0	12
64	â€œStrategies of Life Detectionâ€• Summary and Outlook. Space Sciences Series of ISSI, 2008, , 371-380.	0.0	0
65	Protein Microarrays-Based Strategies for Life Detection in Astrobiology. Space Sciences Series of ISSI, 2008, , 293-311.	0.0	0
66	The Cyborg Astrobiologist: porting from a wearable computer to the Astrobiology Phone-cam. International Journal of Astrobiology, 2007, 6, 255-261.	1.6	3
67	MARTE: Technology development and lessons learned from a Mars drilling mission simulation. Journal of Field Robotics, 2007, 24, 877-905.	6.0	33
68	A multi-array competitive immunoassay for the detection of broad-range molecular size organic compounds relevant for astrobiology. Planetary and Space Science, 2006, 54, 1612-1621.	1.7	35
69	Solid: an antibody microarray-based instrument for life detection and planetary exploration. , 2006, , .		0
70	A chamber for studying planetary environments and its applications to astrobiology. Measurement Science and Technology, 2006, 17, 2274-2280.	2.6	29
71	Instrument development to search for biomarkers on mars: Terrestrial acidophile, iron-powered chemolithoautotrophic communities as model systems. Planetary and Space Science, 2005, 53, 729-737.	1.7	77
72	The Cyborg Astrobiologist: scouting red beds for uncommon features with geological significance. International Journal of Astrobiology, 2005, 4, 101.	1.6	9

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73	The Cyborg Astrobiologist: first field experience. International Journal of Astrobiology, 2004, 3, 189-207.	1.6	10
74	The Tinto River, an extreme acidic environment under control of iron, as an analog of the Terra Meridiani hematite site of Mars. Planetary and Space Science, 2004, 52, 239-248.	1.7	110