

# Hydrogen Mapping of the Lunar South Pole Using the LEND

Science

330, 483-486

DOI: [10.1126/science.1185696](https://doi.org/10.1126/science.1185696)

Citation Report

#	ARTICLE	IF	CITATIONS
1	Lunar Water: A Brief Review. <i>Earth, Moon and Planets</i> , 2010, 107, 65-73.	0.6	70
2	Detection of Water in the LCROSS Ejecta Plume. <i>Science</i> , 2010, 330, 463-468.	12.6	707
3	Performance of Orbital Neutron Instruments for Spatially Resolved Hydrogen Measurements of Airless Planetary Bodies. <i>Astrobiology</i> , 2010, 10, 183-200.	3.0	23
4	Response to Comment on "Hydrogen Mapping of the Lunar South Pole Using the LRO Neutron Detector Experiment LEND" <i>Science</i> , 2011, 334, 1058-1058.	12.6	12
5	Modeling of the vapor release from the LCROSS impact: Parametric dependencies. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	12
6	Optimal Lunar Orbit Insertion from a Variable Symmetric Free-Return Trajectory. <i>Journal of Guidance, Control, and Dynamics</i> , 2011, 34, 1867-1875.	2.8	3
7	Optical measurements of the Moon as a tool to study its surface. <i>Planetary and Space Science</i> , 2011, 59, 1326-1371.	1.7	201
8	Water on the Moon. <i>Nature Geoscience</i> , 2011, 4, 586-588.	12.9	6
9	Surface Composition of Vesta: Issues and Integrated Approach. <i>Space Science Reviews</i> , 2011, 163, 117-139.	8.1	25
10	Illumination conditions of the lunar polar regions using LOLA topography. <i>Icarus</i> , 2011, 211, 1066-1081.	2.5	218
11	A ground-based observation of the LCROSS impact events using the Subaru Telescope. <i>Icarus</i> , 2011, 214, 21-29.	2.5	3
12	Technical Comment on "Hydrogen Mapping of the Lunar South Pole Using the LRO Neutron Detector Experiment LEND" <i>Science</i> , 2011, 334, 1058-1058.	12.6	25
13	Nuclear Planetology: Especially Concerning the Moon and Mars. <i>Research in Astronomy and Astrophysics</i> , 2012, 12, 1313-1380.	1.7	5
15	An upper limit for ice in Shackleton crater as revealed by LRO Mini-RF orbital radar. <i>Geophysical Research Letters</i> , 2012, 39, .	4.0	65
16	High spatial resolution studies of epithermal neutron emission from the lunar poles: Constraints on hydrogen mobility. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	38
17	Scientific preparations for lunar exploration with the European Lunar Lander. <i>Planetary and Space Science</i> , 2012, 74, 208-223.	1.7	34
18	Remote laser-induced breakdown spectroscopy (LIBS) for lunar exploration. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	55
19	Dynamic Albedo of Neutrons (DAN) Experiment Onboard NASA's Mars Science Laboratory. <i>Space Science Reviews</i> , 2012, 170, 559-582.	8.1	87

#	ARTICLE	IF	CITATIONS
20	Origin and stability of lunar polar volatiles. <i>Advances in Space Research</i> , 2012, 50, 1638-1646.	2.6	21
21	LVRAP—A lunar volatile resources analysis package for lunar exploration. <i>Planetary and Space Science</i> , 2012, 74, 254-263.	1.7	8
22	Testing lunar permanently shadowed regions for water ice: LEND results from LRO. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	49
23	Modeling of the vapor release from the LCROSS impact: 2. Observations from LAMP. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	23
24	Far-ultraviolet reflectance properties of the Moon's permanently shadowed regions. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	115
25	The first cosmic ray albedo proton map of the Moon. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	12
26	Testing polar spots of water-rich permafrost on the Moon: LEND observations onboard LRO. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	60
27	Statistics for orbital neutron spectroscopy of the Moon and other airless planetary bodies. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	7
28	LEND neutron data processing for the mapping of the Moon. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	18
29	Two-dimensional distribution of volatiles in the lunar regolith from space weathering simulations. <i>Geophysical Research Letters</i> , 2012, 39, .	4.0	61
30	Comment on "Statistics for orbital neutron spectroscopy of the Moon and other planetary bodies" by R. S. Miller. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	7
31	Plasma wake simulations and object charging in a shadowed lunar crater during a solar storm. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	37
32	Enhanced hydrogen at the lunar poles: New insights from the detection of epithermal and fast neutron signatures. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	16
33	A QUANTITATIVE COMPARISON OF LUNAR ORBITAL NEUTRON DATA. <i>Astrophysical Journal</i> , 2012, 747, 6.	4.5	18
34	Water and other volatiles on the moon: A review. <i>Solar System Research</i> , 2012, 46, 89-107.	0.7	19
35	Dusty plasma system in the surface layer of the illuminated part of the moon. <i>JETP Letters</i> , 2012, 95, 182-187.	1.4	46
36	Global maps of lunar neutron fluxes from the LEND instrument. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	35
37	The Lunar Crater Observation and Sensing Satellite (LCROSS) Payload Development and Performance in Flight. <i>Space Science Reviews</i> , 2012, 167, 23-69.	8.1	26

#	ARTICLE	IF	CITATIONS
38	NASA'S Robotic Lunar Lander Development Project. <i>Acta Astronautica</i> , 2012, 79, 221-240.	3.2	13
39	Toward a global space exploration program: A stepping stone approach. <i>Advances in Space Research</i> , 2012, 49, 2-48.	2.6	50
40	Surface mineralogy and stratigraphy of the lunar South Pole-Aitken basin determined from Clementine UV/VIS and NIR data. <i>Planetary and Space Science</i> , 2012, 68, 76-85.	1.7	31
41	Anthology of the Development of Radiation Transport Tools as Applied to Single Event Effects. <i>IEEE Transactions on Nuclear Science</i> , 2013, 60, 1876-1911.	2.0	119
42	The formation of molecular hydrogen from water ice in the lunar regolith by energetic charged particles. <i>Journal of Geophysical Research E: Planets</i> , 2013, 118, 1257-1264.	3.6	20
43	New results and questions of lunar exploration from SELENE, Chang'e-1, Chandrayaan-1 and LRO/LCROSS. <i>Advances in Space Research</i> , 2013, 52, 285-305.	2.6	92
44	Dusty plasma at the surface of the moon. <i>Solar System Research</i> , 2013, 47, 419-429.	0.7	80
45	Proton flux and radiation dose from galactic cosmic rays in the lunar regolith and implications for organic synthesis at the poles of the Moon and Mercury. <i>Icarus</i> , 2013, 226, 1192-1200.	2.5	26
46	Persistently illuminated regions at the lunar poles: Ideal sites for future exploration. <i>Icarus</i> , 2013, 222, 122-136.	2.5	67
47	Redistribution of lunar polar water to mid-latitudes and its role in forming an OH veneer. <i>Planetary and Space Science</i> , 2013, 89, 15-20.	1.7	18
48	Recursive plasma wake formation on the Moon and its effect on polar volatiles. <i>Icarus</i> , 2013, 226, 992-998.	2.5	21
49	Future lunar missions and investigation of dusty plasma processes on the Moon. <i>Journal of Plasma Physics</i> , 2013, 79, 405-411.	2.1	20
50	Relative contributions of galactic cosmic rays and lunar proton albedo to dose and dose rates near the Moon. <i>Space Weather</i> , 2013, 11, 643-650.	3.7	26
51	Experimental Feasibility Study of On-Site Detection of OH/H <sub>2</sub> O due to In-Situ Thermal Processing of Lunar Regolith. , 2013, , .		0
52	Water in a Land of False Seas. , 0, , 227-260.		0
53	The global albedo of the Moon at 1064 nm from LOLA. <i>Journal of Geophysical Research E: Planets</i> , 2014, 119, 1665-1679.	3.6	96
54	Understanding the origin and evolution of water in the Moon through lunar sample studies. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2014, 372, 20130254.	3.4	35
55	Developing the global exploration roadmap: An example using the humans to the lunar surface theme. <i>Space Policy</i> , 2014, 30, 156-162.	1.5	7

#	ARTICLE	IF	CITATIONS
56	Dusty plasmas over the Moon. <i>Journal of Plasma Physics</i> , 2014, 80, 885-893.	2.1	17
57	Characteristic features in the spectra of Europa, Ganymede, and Callisto. <i>Solar System Research</i> , 2014, 48, 48-61.	0.7	1
58	Influence of the solar wind on the distribution of the electric potential near the Moon's surface. <i>Plasma Physics Reports</i> , 2014, 40, 14-20.	0.9	16
59	THE LUNAR THERMAL ICE PUMP. <i>Astrophysical Journal</i> , 2014, 788, 169.	4.5	44
60	Geological context of potential landing site of the Luna-Glob mission. <i>Solar System Research</i> , 2014, 48, 391-402.	0.7	6
61	High-priority lunar landing sites for in situ and sample return studies of polar volatiles. <i>Planetary and Space Science</i> , 2014, 101, 149-161.	1.7	36
62	Identification of surface hydrogen enhancements within the Moon's Shackleton crater. <i>Icarus</i> , 2014, 233, 229-232.	2.5	27
63	How well do we know the polar hydrogen distribution on the Moon?. <i>Journal of Geophysical Research E: Planets</i> , 2014, 119, 574-593.	3.6	27
64	Development and Testing of a Lunar Prospecting Drill (LPD) to Search for Water-Ice. , 2015, , .		2
65	Small impact craters in the polar regions of the Moon: Peculiarities of morphometric characteristics. <i>Solar System Research</i> , 2015, 49, 295-302.	0.7	16
66	Water on the Moon. <i>Proceedings of the International Astronomical Union</i> , 2015, 11, 402-406.	0.0	2
67	Interior Structure, Composition, and Mineralogy of the Terrestrial Planets. , 2015, , 23-64.		24
68	Water on the Terrestrial Planets. , 2015, , 367-409.		7
69	The corrected method for calculation of electrostatic potential near to surface of nonatmospheric space body and the analysis of possible modes of dust particles motion. , 2015, , .		2
70	Influence of the lunar ambience on dynamic surface hydration on sunlit regions of the Moon. <i>Advances in Space Research</i> , 2015, 55, 1705-1709.	2.6	1
71	The spatial distribution of molecular Hydrogen in the lunar atmosphere—New results. <i>Planetary and Space Science</i> , 2015, 106, 142-147.	1.7	14
72	Evolution of lunar polar ice stability. <i>Icarus</i> , 2015, 255, 78-87.	2.5	72
73	Transport of water in a transient impact-generated lunar atmosphere. <i>Icarus</i> , 2015, 255, 148-158.	2.5	55

#	ARTICLE	IF	CITATIONS
74	High-resolution mapping of lunar polar hydrogen with a low-resource orbital mission. <i>Acta Astronautica</i> , 2015, 115, 452-462.	3.2	9
75	Evidence for the sequestration of hydrogen-bearing volatiles towards the Moon's southern pole-facing slopes. <i>Icarus</i> , 2015, 255, 88-99.	2.5	14
76	Ground tests with active neutron instrumentation for the planetary science missions. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2015, 788, 194-202.	1.6	12
77	Evolution of the dust and water ice plume components as observed by the LCROSS visible camera and UV-visible spectrometer. <i>Icarus</i> , 2015, 254, 262-275.	2.5	14
78	Improved Views of the Moon in the Early Twenty First Century: A Review. <i>Earth, Moon and Planets</i> , 2015, 114, 101-135.	0.6	8
79	Moonshine: Diurnally varying hydration through natural distillation on the Moon, detected by the Lunar Exploration Neutron Detector (LEND). <i>Icarus</i> , 2015, 255, 100-115.	2.5	16
80	The age of lunar south circumpolar craters Haworth, Shoemaker, Faustini, and Shackleton: Implications for regional geology, surface processes, and volatile sequestration. <i>Icarus</i> , 2015, 255, 70-77.	2.5	36
81	Non-monotonic potentials above the day-side lunar surface exposed to the solar radiation. <i>Planetary and Space Science</i> , 2015, 115, 64-68.	1.7	12
82	Water delivery to the Moon by asteroidal and cometary impacts. <i>Planetary and Space Science</i> , 2015, 117, 444-452.	1.7	40
83	Analysis of drill head designs for dual-reciprocating drilling technique in planetary regoliths. <i>Advances in Space Research</i> , 2015, 56, 1765-1776.	2.6	29
84	Magmatic volatiles (H, C, N, F, S, Cl) in the lunar mantle, crust, and regolith: Abundances, distributions, processes, and reservoirs. <i>American Mineralogist</i> , 2015, 100, 1668-1707.	1.9	160
85	LRO-LAMP detection of geologically young craters within lunar permanently shaded regions. <i>Icarus</i> , 2016, 273, 114-120.	2.5	15
86	Investigation of the properties of icy lunar polar regolith simulants. <i>Advances in Space Research</i> , 2016, 57, 1197-1208.	2.6	29
87	Water in the Moon's polar areas: Results of LEND neutron telescope mapping. <i>Doklady Physics</i> , 2016, 61, 98-101.	0.7	9
88	Lunar water migration in the interval between large impacts: Heterogeneous delivery to Permanently Shadowed Regions, fractionation, and diffusive barriers. <i>Journal of Geophysical Research E: Planets</i> , 2016, 121, 46-60.	3.6	24
89	Problems of moving ultrasound penetrative devices in a dispersion medium during drilling of the Moon's regolith. <i>Acoustical Physics</i> , 2016, 62, 633-641.	1.0	4
90	Physical calibration of the LEND space-based neutron telescope: the sensitivity and the angular resolution. <i>Instruments and Experimental Techniques</i> , 2016, 59, 578-591.	0.5	3
91	Ground tests of nuclear planetology instruments at the JINR experimental facility. <i>Physics of Particles and Nuclei Letters</i> , 2016, 13, 234-243.	0.4	3

#	ARTICLE	IF	CITATIONS
92	Test facility for nuclear planetology instruments. <i>Physics of Particles and Nuclei Letters</i> , 2016, 13, 224-233.	0.4	5
93	Estimation method of planetary fast neutron flux by a Ge gamma-ray spectrometer. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2016, 828, 145-155.	1.6	4
94	Optimized traverse planning for future polar prospectors based on lunar topography. <i>Icarus</i> , 2016, 273, 337-345.	2.5	22
95	Lunar polar rover science operations: Lessons learned and mission architecture implications derived from the Mojave Volatiles Prospector (MVP) terrestrial field campaign. <i>Advances in Space Research</i> , 2016, 58, 545-559.	2.6	6
96	Site selection and traverse planning to support a lunar polar rover mission: A case study at Haworth Crater. <i>Acta Astronautica</i> , 2016, 127, 308-320.	3.2	23
97	Lunar true polar wander inferred from polar hydrogen. <i>Nature</i> , 2016, 531, 480-484.	27.8	90
98	The variations of neutron component of lunar radiation background from LEND/LRO observations. <i>Planetary and Space Science</i> , 2016, 122, 53-65.	1.7	13
99	Thermal behavior of regolith at cold traps on the moon's south pole: Revealed by Chang'e-2 microwave radiometer data. <i>Planetary and Space Science</i> , 2016, 122, 101-109.	1.7	10
100	The Lunar Reconnaissance Orbiter Mission – Six years of science and exploration at the Moon. <i>Icarus</i> , 2016, 273, 2-24.	2.5	38
102	Bistatic radar observations of the Moon using Mini-RF on LRO and the Arecibo Observatory. <i>Icarus</i> , 2017, 283, 2-19.	2.5	59
103	Contributions of solar wind and micrometeoroids to molecular hydrogen in the lunar exosphere. <i>Icarus</i> , 2017, 283, 31-37.	2.5	30
104	Physical properties of lunar craters. <i>Research in Astronomy and Astrophysics</i> , 2017, 17, 24.	1.7	0
105	Antarctica as a testing ground for manned missions to the Moon and Mars. <i>Solar System Research</i> , 2017, 51, 104-120.	0.7	4
106	Laboratory experiments to investigate sublimation rates of water ice in nighttime lunar regolith. <i>Icarus</i> , 2017, 293, 180-184.	2.5	8
107	Searches for extraterrestrial life in the solar system: Status and perspectives. <i>Astronomy Reports</i> , 2017, 61, 324-331.	0.9	1
108	The new Moon. <i>Physics Today</i> , 2017, 70, 38-44.	0.3	4
109	Effects of rain and soil moisture on background neutron measurements with the SuperMISTI neutron array. <i>Radiation Measurements</i> , 2017, 99, 50-59.	1.4	5
110	Temperature regime and water/hydroxyl behavior in the crater Boguslawsky on the Moon. <i>Icarus</i> , 2017, 285, 118-136.	2.5	27

#	ARTICLE	IF	CITATIONS
111	A tale of two poles: Toward understanding the presence, distribution, and origin of volatiles at the polar regions of the Moon and Mercury. <i>Journal of Geophysical Research E: Planets</i> , 2017, 122, 21-52.	3.6	69
112	The possible hydrogen anomalies in KREEP terrain according to the results of LEND and LPNS data. <i>Advances in Space Research</i> , 2017, 60, 1570-1577.	2.6	0
113	The ADRON-RM Instrument Onboard the ExoMars Rover. <i>Astrobiology</i> , 2017, 17, 585-594.	3.0	17
114	Selection of Luna-25 landing sites in the South Polar Region of the Moon. <i>Solar System Research</i> , 2017, 51, 185-195.	0.7	37
115	Ground-based measurements with the ADRON active gamma-ray and neutron spectrometer designed for lunar and Martian landing missions. <i>Solar System Research</i> , 2017, 51, 171-184.	0.7	4
116	Summary of the results from the lunar orbiter laser altimeter after seven years in lunar orbit. <i>Icarus</i> , 2017, 283, 70-91.	2.5	116
117	Hydrogen distribution in the lunar polar regions. <i>Icarus</i> , 2017, 283, 20-30.	2.5	75
118	Fundamental Problems of Lunar Research, Technical Solutions, and Priority Lunar Regions for Research. <i>Solar System Research</i> , 2017, 51, 441-456.	0.7	5
119	Lunar Dust: Properties and Investigation Techniques. <i>Solar System Research</i> , 2017, 51, 611-622.	0.7	21
120	Lunar dust and dusty plasmas: Recent developments, advances, and unsolved problems. <i>Planetary and Space Science</i> , 2018, 156, 71-84.	1.7	73
121	Using complementary remote sensing techniques to assess the presence of volatiles at the lunar north pole. <i>Planetary and Space Science</i> , 2018, 162, 133-147.	1.7	15
122	Potential impact-induced water-solid reactions on the Moon. <i>Planetary and Space Science</i> , 2018, 162, 157-169.	1.7	14
123	SMART-1 technology, scientific results and heritage for future space missions. <i>Planetary and Space Science</i> , 2018, 151, 141-148.	1.7	13
124	Neutron physics at the Joint Institute for Nuclear Research. <i>Physica B: Condensed Matter</i> , 2018, 551, 336-338.	2.7	0
125	SELMA mission: How do airless bodies interact with space environment? The Moon as an accessible laboratory. <i>Planetary and Space Science</i> , 2018, 156, 23-40.	1.7	5
126	Crater age and hydrogen content in lunar regolith from LEND neutron data. <i>Planetary and Space Science</i> , 2018, 162, 105-112.	1.7	2
127	The New Moon: Major Advances in Lunar Science Enabled by Compositional Remote Sensing from Recent Missions. <i>Geosciences (Switzerland)</i> , 2018, 8, 498.	2.2	11
128	Imaging Plasma Density Structures in the Soft X-Rays Generated by Solar Wind Charge Exchange with Neutrals. <i>Space Science Reviews</i> , 2018, 214, 1.	8.1	47



#	ARTICLE	IF	CITATIONS
129	Mercury's Polar Deposits. , 2018, , 346-370.		9
130	Boguslawsky Crater on the Moon: Landing Site Selection for the Luna's Glob Mission Descent Module. Solar System Research, 2018, 52, 570-577.	0.7	3
131	Fine Resolution Epithermal Neutron Detector (FRIEND) Onboard the ExoMars Trace Gas Orbiter. Space Science Reviews, 2018, 214, 1.	8.1	33
132	Advanced illumination modeling for data analysis and calibration. Application to the Moon. Advances in Space Research, 2018, 62, 3214-3228.	2.6	19
133	D/H fractionation during sublimation of water ice at low temperatures into a vacuum. Planetary and Space Science, 2018, 158, 25-33.	1.7	7
134	Steepness of Slopes at the Luna-Glob Landing Sites: Estimating by the Shaded Area Percentage in the LROC NAC Images. Solar System Research, 2018, 52, 87-97.	0.7	3
135	The Temperature Regime of the Proposed Landing Sites for the Luna-Glob Mission in the South Polar Region of the Moon. Earth, Moon and Planets, 2018, 122, 1-13.	0.6	1
136	Benchmarking Geant4 for Simulating Galactic Cosmic Ray Interactions Within Planetary Bodies. Earth and Space Science, 2018, 5, 324-338.	2.6	17
137	On the Possibility of the Existence of Volatile Compounds in the Region of the Scott Crater on the Moon. Cosmic Research, 2018, 56, 169-179.	0.6	1
138	Seasonal Polar Temperatures on the Moon. Journal of Geophysical Research E: Planets, 2019, 124, 2505-2521.	3.6	80
139	Thick ice deposits in shallow simple craters on the Moon and Mercury. Nature Geoscience, 2019, 12, 597-601.	12.9	78
140	The Temporal and Geographic Extent of Seasonal Cold Trapping on the Moon. Journal of Geophysical Research E: Planets, 2019, 124, 1935-1944.	3.6	21
141	On the account of the Moon's gravitational field in LEND measurements. Planetary and Space Science, 2019, 179, 104720.	1.7	0
142	Promising Neutron Detector with Anticoincidence Protection. Physics of Particles and Nuclei Letters, 2019, 16, 93-99.	0.4	0
143	Dusty Plasmas over Hydrogen-Rich Areas of Lunar Surface. , 2019, , .		0
144	Water Formation in the Lunar Regolith. Cosmic Research, 2019, 57, 79-84.	0.6	8
145	Lunar soil hydration constrained by exospheric water liberated by meteoroid impacts. Nature Geoscience, 2019, 12, 333-338.	12.9	81
146	Morphological and Chronological Mapping of Manilius Crater Region Using Chandrayaan-1 Data Sets. Journal of the Indian Society of Remote Sensing, 2019, 47, 839-851.	2.4	0

#	ARTICLE	IF	CITATIONS
147	Design and Characterization of the Multi-Band SWIR Receiver for the Lunar Flashlight CubeSat Mission. <i>Remote Sensing</i> , 2019, 11, 440.	4.0	5
148	Lunar Crater Detection based on Grid Partition using Deep Learning. , 2019, , .		5
149	System Construction for Both Lunar Obstacle Detection and Annotation Support Based on Neuronsâ€™™ Decision Validity. , 2019, , .		0
150	Constraining the Evolutionary History of the Moon and the Inner Solar System: A Case for New Returned Lunar Samples. <i>Space Science Reviews</i> , 2019, 215, 1.	8.1	41
151	Lunar polar water resource exploration â€™ Examination of the lunar cold trap reservoir system model and introduction of play-based exploration (PBE) techniques. <i>Planetary and Space Science</i> , 2020, 180, 104742.	1.7	16
152	Precise Detections of Solar Particle Events and a New View of the Moon. <i>Geophysical Research Letters</i> , 2020, 47, e2019GL085522.	4.0	3
153	The Lunar Polar Hydrogen Mapper CubeSat Mission. <i>IEEE Aerospace and Electronic Systems Magazine</i> , 2020, 35, 54-69.	1.3	15
154	Accessibility Data Set for Large Permanent Cold Traps at the Lunar Poles. <i>Earth and Space Science</i> , 2020, 7, e2020EA001291.	2.6	4
155	H<sub>2</sub>O and Other Volatiles in the Moon, 50 Years and on. <i>ACS Earth and Space Chemistry</i> , 2020, 4, 1480-1499.	2.7	5
156	Micrometeoroids: the Flux on the Moon and a Source of Volatiles. <i>Solar System Research</i> , 2020, 54, 263-274.	0.7	3
157	Laboratory investigations of Lunar ice imaging in permanently shadowed regions using reflected starlight. <i>Acta Astronautica</i> , 2020, 177, 604-610.	3.2	2
158	KAGUYA observation of global emissions of indigenous carbon ions from the Moon. <i>Science Advances</i> , 2020, 6, eaba1050.	10.3	10
159	Dusty Plasma at the Moon. Challenges of Modeling and Measurements. <i>Plasma Physics Reports</i> , 2020, 46, 527-540.	0.9	17
160	Geologic context and potential EVA targets at the lunar south pole. <i>Advances in Space Research</i> , 2020, 66, 1247-1264.	2.6	22
161	Penetration and relaxation behavior of JSC-1A lunar regolith simulant under cryogenic conditions. <i>Icarus</i> , 2020, 346, 113812.	2.5	10
162	Water within a permanently shadowed lunar crater: Further LCROSS modeling and analysis. <i>Icarus</i> , 2021, 354, 114089.	2.5	17
163	Human habitats: prospects for infrastructure supporting astronomy from the Moon. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2021, 379, 20190568.	3.4	11
164	Illumination conditions within permanently shadowed regions at the lunar poles: Implications for in-situ passive remote sensing. <i>Acta Astronautica</i> , 2021, 178, 432-451.	3.2	8

#	ARTICLE	IF	CITATIONS
165	Small Penetrator Instrument Concept for the Advancement of Lunar Surface Science. Planetary Science Journal, 2021, 2, 38.	3.6	5
166	Geological and Geomorphological Characteristics of High-Priority Landing Sites for the Luna-Glob Mission. Solar System Research, 2021, 55, 83-96.	0.7	2
167	HYDRATION: Mining Water Ice on the Moon and Mars Using Downhole Radiative Heating. , 2021, , .		1
168	Temperatures Near the Lunar Poles and Their Correlation With Hydrogen Predicted by LEND. Journal of Geophysical Research E: Planets, 2021, 126, e2020JE006598.	3.6	11
169	Water Group Exospheres and Surface Interactions on the Moon, Mercury, and Ceres. Space Science Reviews, 2021, 217, 1.	8.1	21
170	Investigation on in-situ water ice recovery considering energy efficiency at the lunar south pole. Applied Energy, 2021, 298, 117136.	10.1	11
171	Water on the Moon: What Is Derived from the Observations?. , 2012, , 57-85.		10
172	Thermal extraction of water ice from the lunar surface - A 3D numerical model. Planetary and Space Science, 2020, 193, 105082.	1.7	18
173	On the Study of the Spatial Variability of the Composition of the Lunar Material in Experiments on Gamma Spectroscopy Onboard a Mobile Spacecraft Using the Tagged-Cosmic-Rays Method. Solar System Research, 2020, 54, 477-487.	0.7	4
174	Mapping the Limited Extent of Earthshine within Lunar PSRs. Research Notes of the AAS, 2019, 3, 127.	0.7	2
175	Lunar Crater Observation and Sensing Satellite (LCROSS). , 2021, , 1-16.		0
176	Analyzing Surface Ruggedness Inside and Outside of Ice Stability Zones at the Lunar Poles. Planetary Science Journal, 2021, 2, 213.	3.6	12
177	Surface Composition of Vesta: Issues and Integrated Approach. , 2011, , 117-139.		0
178	Dynamic Albedo of Neutrons (DAN) Experiment Onboard NASA's Mars Science Laboratory. , 2012, , 559-582.		1
179	Turbulent Chaos and Self-Organization in Cosmic Natural Media. Astrophysics and Space Science Library, 2013, , 1-144.	2.7	0
180	Surface and Near-Surface Thermal Environment of the Moon. , 2014, , 1-11.		0
181	- Lunar Geodesy and Sensing: Methods and Results from Recent Lunar Exploration Missions. , 2014, , 16-33.		0
183	Essays on Lunar Toponymy. Events and People Reflected in the Names on Lunar Maps. Astrophysics and Space Science Library, 2016, , 77-113.	2.7	0

#	ARTICLE	IF	CITATIONS
188	Design and characterization of a low cost CubeSat multi-band optical receiver to map water ice on the lunar surface for the Lunar Flashlight mission. , 2017, , .		0
189	Detection of Water. , 2018, , 1-9.		0
190	Physical Properties of Icy Materials. , 2018, , 15-29.		0
191	Optical and mechanical designs of the multi-band SWIR receiver for the Lunar Flashlight CubeSat mission. , 2018, , .		0
192	The Lunar Flashlight CubeSat instrument: A compact SWIR laser reflectometer to quantify and map water ice on the surface of the Moon. , 2018, , .		1
193	Lunar Permanently Shaded Areas. , 2020, , 1-4.		1
194	Lunar and off Earth resource drivers, estimations and the development conundrum. Advances in Space Research, 2020, 66, 359-377.	2.6	2
195	Spatio-Temporal Path Planning for Lunar Polar Exploration with Robustness against Schedule Delay. Transactions of the Japan Society for Aeronautical and Space Sciences, 2021, 64, 304-311.	0.7	2
198	Proving lunar resources are actually reserves. , 2020, , .		0
199	Lunar Dust: Properties and Potential Hazards. Solar System Research, 2020, 54, 455-476.	0.7	23
200	In situ resource utilisation: The potential for space biomining. Minerals Engineering, 2022, 176, 107288.	4.3	13
201	Visual SLAM-Based Robotic Mapping Method for Planetary Construction. Sensors, 2021, 21, 7715.	3.8	12
202	Resource potential of lunar permanently shadowed regions. Icarus, 2022, 377, 114874.	2.5	25
203	Luna-25: The First Polar Mission to the Moon. Solar System Research, 2021, 55, 485-495.	0.7	8
204	Depth to Diameter Analysis on Small Simple Craters at the Lunar South Pole—Possible Implications for Ice Harboring. Remote Sensing, 2022, 14, 450.	4.0	3
205	Space solar power satellite for the Moon and Mars mission. Journal of Space Safety Engineering, 2022, 9, 96-105.	0.9	14
206	Physical Calibrations of the FRIEND Instrument Installed Onboard TGO Martian Orbiter. Cosmic Research, 2022, 60, 23-37.	0.6	1
207	Size—frequency measurements of meter-sized craters and boulders in the lunar polar regions for landing-site selections of future lunar polar missions. Icarus, 2022, 378, 114938.	2.5	4

#	ARTICLE	IF	CITATIONS
209	Analysis and prediction of uniaxial compressive strength of icy lunar regolith under extreme temperature. <i>Advances in Space Research</i> , 2022, 69, 4391-4407.	2.6	9
210	Moon dust As a Risk Factor in Lunar Exploration. <i>Herald of the Russian Academy of Sciences</i> , 2021, 91, 637-646.	0.6	3
211	Ground-Based Testing of the Lunar Manipulator Complex of the Luna-25 Project. <i>Solar System Research</i> , 2021, 55, 605-619.	0.7	2
212	Volatile interactions with the lunar surface. <i>Chemie Der Erde</i> , 2022, 82, 125858.	2.0	26
213	Thermal deformation analysis of a 3D printed Kingdon ion trap for the Moon environment. <i>Advances in Space Research</i> , 2022, 70, 211-222.	2.6	1
214	An Innovative Synthetic Aperture Radar Design Method for Lunar Water Ice Exploration. <i>Remote Sensing</i> , 2022, 14, 2148.	4.0	1
215	Polar Ice Accumulation from Volcanically Induced Transient Atmospheres on the Moon. <i>Planetary Science Journal</i> , 2022, 3, 99.	3.6	13
216	Evidence of water on the lunar surface from Chang'e™E-5 in-situ spectra and returned samples. <i>Nature Communications</i> , 2022, 13, .	12.8	18
217	Impact-Caused Regolith Reworking within the Polar Regions of the Moon. <i>Solar System Research</i> , 2022, 56, 155-163.	0.7	1
218	Development of novel crystal scintillators for lunar surface science. <i>Radiation Physics and Chemistry</i> , 2022, 201, 110425.	2.8	4
219	Luna "25 robotic arm: Results of experiment with analog of lunar regolith in lunar like conditions. <i>Acta Astronautica</i> , 2022, 200, 282-290.	3.2	5
220	Characteristics of de Gerlache crater, site of girdlands and slope exposed ice in a lunar polar depression. <i>Icarus</i> , 2022, 388, 115231.	2.5	5
221	Twenty-Five Years of Cooperation between the Space Research Institute of the Russian Academy of Sciences and the Joint Institute for Nuclear Research. <i>Physics of Particles and Nuclei Letters</i> , 2022, 19, 616-629.	0.4	0
222	LRO's LAMP Survey of Lunar South Pole Cold Traps: Implication for the Presence of Condensed H <sub>2</sub> O. <i>Journal of Geophysical Research E: Planets</i> , 2022, 127, .	3.6	4
223	Water extraction from icy lunar regolith by drilling-based thermal method in a pilot-scale unit. <i>Acta Astronautica</i> , 2023, 202, 386-399.	3.2	8
224	Integral equation modeling for dielectric retrieval of the lunar surface using Chandrayaan-2 fully-Polarimetric L-band dual frequency SAR (DFSAR) data. <i>Icarus</i> , 2023, 391, 115350.	2.5	3
225	Geologic history of the south circumpolar region (SCR) of the Moon. <i>Icarus</i> , 2023, 394, 115422.	2.5	4
226	Lunar explorations "Discovering water, minerals, and underground caves and tunnel complexes. , 2023, , 399-452.		0

#	ARTICLE	IF	CITATIONS
227	Review of Comprehensive Exploitation Technology of Lunar Water Ice Resource. Kongjian Kexue Xuebao, 2023, 43, 273.	0.4	0
228	Optimum energy efficiency in lunar in-situ water ice utilization. Acta Astronautica, 2023, 207, 307-315.	3.2	2
229	Estimation of the Influence of Contamination by Rocket Fuel Combustion Products on the Chemical and Isotopic Composition of the Lunar Regolith in the Polar Regions. , 2023, , 411-423.		0
230	The Mechanism for the Barrier of Lunar Regolith on the Migration of Water Molecules. Journal of Geophysical Research E: Planets, 2023, 128, .	3.6	1
231	Dusty Plasmas in the Vicinity of the Moon: Current Research and New Vistas. Plasma Physics Reports, 2023, 49, 29-40.	0.9	3
232	A solar wind-derived water reservoir on the Moon hosted by impact glass beads. Nature Geoscience, 2023, 16, 294-300.	12.9	11
233	Exploration of the Moon by Automatic Spacecraft. Cosmic Research, 2023, 61, 46-69.	0.6	0
234	Surface and Near-Surface Thermal Environment of the Moon. , 2023, , 1140-1148.		0
235	Estimation of Ejecta Thickness from Impact Craters in the South Polar Region of the Moon. Solar System Research, 2023, 57, 122-132.	0.7	1
236	Lunar Crater Observation and Sensing Satellite (LCROSS). , 2023, , 506-520.		0
237	Lunar Permanently Shaded Areas. , 2023, , 751-754.		0
238	Detection of Water. , 2023, , 197-204.		0
239	LCROSS, Lunar Diviner Instrument. , 2023, , 412-415.		0
240	Synergistic use of remote sensing data and in-situ investigations to characterize the lunar surface. Advances in Space Research, 2024, 73, 2155-2174.	2.6	0
241	Reflectivity. , 2023, , 1030-1033.		0
242	SMART-1 Mission. , 2023, , 1106-1130.		0
243	Thermal Environments and Volatile Stability Within Lunar Pits and Caves. Journal of Geophysical Research E: Planets, 2023, 128, .	3.6	0
244	In-situ measurement of hydrogen on airless planetary bodies using laser-induced breakdown spectroscopy. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2023, 205, 106696.	2.9	0

#	ARTICLE	IF	CITATIONS
245	Sampling of lunar regolith with a deep fluted auger: Experimental study on sampling performance. <i>Advances in Space Research</i> , 2023, 72, 3357-3375.	2.6	1
246	Scientific exploration of challenging planetary analog environments with a team of legged robots. <i>Science Robotics</i> , 2023, 8, .	17.6	1
247	A Lunar Printer Experiment on Laser Fusion of the Lunar Regolith in the Luna-Grunt Space Project. <i>Cosmic Research</i> , 2023, 61, 314-323.	0.6	1
248	Analysis of the permanently shadowed region of Cabeus crater in lunar south pole using orbiter high resolution camera imagery. <i>Icarus</i> , 2023, 406, 115762.	2.5	2
249	Numerical simulation revealing the impact of drilling-based mining equipment structure on water ice extraction from lunar soil. <i>Acta Astronautica</i> , 2023, 213, 431-437.	3.2	0
250	Lunar Resources. <i>Reviews in Mineralogy and Geochemistry</i> , 2023, 89, 829-868.	4.8	5
251	Geotechnical Properties of the Icy Lunar Regolith in Cryogenic Environments Anticipated in Permanently Shadowed Regions of the Moon. <i>Journal of Aerospace Engineering</i> , 2024, 37, .	1.4	1
253	Surface Volatiles on the Moon. <i>Reviews in Mineralogy and Geochemistry</i> , 2023, 89, 787-827.	4.8	4
254	Lunar Surface Processes. <i>Reviews in Mineralogy and Geochemistry</i> , 2023, 89, 651-690.	4.8	4
255	Recent Exploration of the Moon: Science from Lunar Missions Since 2006. <i>Reviews in Mineralogy and Geochemistry</i> , 2023, 89, 1-51.	4.8	7
256	A Sample Repetitive Manipulation Mechanism (SRMM) for Lunar Regolith In-Situ Analysis: Design and Validation. , 2023, , .		0
257	ShadowCam Instrument and Investigation Overview. <i>Journal of Astronomy and Space Sciences</i> , 2023, 40, 149-171.	1.0	0
259	Studies of Isotopic Fractionation of D/H Water Ice in Lunar Regolith. <i>Solar System Research</i> , 2023, 57, 505-515.	0.7	0
260	Surface morphology inside the PSR area of lunar polar crater Shoemaker in comparison with that of the sunlit areas. <i>Planetary and Space Science</i> , 2024, 241, 105839.	1.7	0
261	Cold-trapped ices at the poles of Mercury and the Moon. , 2024, , 1-29.		0
262	Surface Roughness at the Moon's South Pole: The Influence of Condensed Volatiles on Surface Roughness at the Moon's South Pole. <i>Planetary Science Journal</i> , 2024, 5, 30.	3.6	0
263	A concise review of resource requirements for future space exploration. <i>Advances in Space Research</i> , 2024, 73, 5363-5382.	2.6	0
264	A study of high-velocity penetration on icy lunar regolith simulants. <i>International Journal of Mechanical Sciences</i> , 2024, 271, 109147.	6.7	0

#	ARTICLE	IF	CITATIONS
265	A background suppression detector array for fast neutron measurement in space science study. Measurement: Journal of the International Measurement Confederation, 2024, 230, 114479.	5.0	0