Constraints on the volatile distribution within Shacklet

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#	Article	IF	Citations
2	Brown dwarfs and free-floating planets. , 0, , 209-216.		0
3	Formation and evolution. , 0, , 217-254.		3
4	An upper limit for ice in Shackleton crater as revealed by LRO Miniâ€RF orbital radar. Geophysical Research Letters, 2012, 39, .	1.5	65
5	A brief review of chemical and mineralogical resources on the Moon and likely initial in situ resource utilization (ISRU) applications. Planetary and Space Science, 2012, 74, 42-48.	0.9	200
6	Ice may lurk in shadows beyond Moon's poles. Nature, 2012, , .	13.7	0
7	An explanation of bright areas inside Shackleton Crater at the Lunar South Pole other than waterâ€ice deposits. Geophysical Research Letters, 2013, 40, 3814-3818.	1.5	23
8	The lunar moho and the internal structure of the Moon: A geophysical perspective. Tectonophysics, 2013, 609, 331-352.	0.9	59
9	Evidence for water ice on the Moon: Results for anomalous polar craters from the LRO Miniâ€RF imaging radar. Journal of Geophysical Research E: Planets, 2013, 118, 2016-2029.	1.5	152
10	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. Icarus, 2013, 226, 1192-1200.	1.1	26
11	Persistently illuminated regions at the lunar poles: Ideal sites for future exploration. Icarus, 2013, 222, 122-136.	1.1	67
12	Space Lidar Developed at the NASA Goddard Space Flight Centerâ€"The First 20 Years. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2013, 6, 1660-1675.	2.3	25
14	The global albedo of the Moon at 1064 nm from LOLA. Journal of Geophysical Research E: Planets, 2014, 119, 1665-1679.	1.5	96
15	Reconfigurable Integrated Multirobot Exploration System (RIMRES): Heterogeneous Modular Reconfigurable Robots for Space Exploration. Journal of Field Robotics, 2014, 31, 3-34.	3.2	52
16	In-flight performance of the Mercury Laser Altimeter laser transmitter. Proceedings of SPIE, 2014, , .	0.8	0
17	High-priority lunar landing sites for in situ and sample return studies of polar volatiles. Planetary and Space Science, 2014, 101, 149-161.	0.9	36
18	Identification of surface hydrogen enhancements within the Moonâ€™s Shackleton crater. Icarus, 2014, 233, 229-232.	1.1	27
19	VISâ€NIR reflectance of water ice/regolith analogue mixtures and implications for the detectability of ice mixed within planetary regoliths. Geophysical Research Letters, 2015, 42, 6205-6212.	1.5	36
20	Evolution of lunar polar ice stability. Icarus, 2015, 255, 78-87.	1.1	72

#	Article	IF	Citations
21	Transport of water in a transient impact-generated lunar atmosphere. Icarus, 2015, 255, 148-158.	1.1	55
22	Evidence for the sequestration of hydrogen-bearing volatiles towards the Moonâ€™s southern pole-facing slopes. Icarus, 2015, 255, 88-99.	1.1	14
23	Improved Views of the Moon in the Early Twenty First Century: A Review. Earth, Moon and Planets, 2015, 114, 101-135.	0.3	8
24	Evidence for exposed water ice in the Moonâ€™s south polar regions from Lunar Reconnaissance Orbiter ultraviolet albedo and temperature measurements. Icarus, 2015, 255, 58-69.	1.1	188
25	The age of lunar south circumpolar craters Haworth, Shoemaker, Faustini, and Shackleton: Implications for regional geology, surface processes, and volatile sequestration. Icarus, 2015, 255, 70-77.	1.1	36
26	Latitudinal variation in spectral properties of the lunar maria and implications for space weathering. Icarus, 2015, 261, 66-79.	1.1	54
28	The permanently shadowed regions of dwarf planet Ceres. Geophysical Research Letters, 2016, 43, 6783-6789.	1.5	52
29	Optimal placement of solar reflectors at the lunar south pole. , 2016, , .		2
30	LRO-LAMP detection of geologically young craters within lunar permanently shaded regions. Icarus, 2016, 273, 114-120.	1.1	15
31	Comparison of areas in shadow from imaging and altimetry in the north polar region of Mercury and implications for polar ice deposits. Icarus, 2016, 280, 158-171.	1.1	40
32	Ground tests of nuclear planetology instruments at the JINR experimental facility. Physics of Particles and Nuclei Letters, 2016, 13, 234-243.	0.1	3
33	Optimized traverse planning for future polar prospectors based on lunar topography. Icarus, 2016, 273, 337-345.	1.1	22
34	Improved calibration of reflectance data from the LRO Lunar Orbiter Laser Altimeter (LOLA) and implications for space weathering. Icarus, 2016, 273, 315-328.	1.1	34
35	The Lunar Reconnaissance Orbiter Mission â€“ Six years of science and exploration at the Moon. Icarus, 2016, 273, 2-24.	1.1	38
36	Generation, ascent and eruption of magma on the Moon: New insights into source depths, magma supply, intrusions and effusive/explosive eruptions (Part 2: Predicted emplacement processes and) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50	1.1	147
37	Bistatic radar observations of the Moon using Mini-RF on LRO and the Arecibo Observatory. Icarus, 2017, 283, 2-19.	1.1	59
38	Albedo Observation by Hayabusa2 LIDAR: Instrument Performance and Error Evaluation. Space Science Reviews, 2017, 208, 49-64.	3.7	13
39	Evidence for surface water ice in the lunar polar regions using reflectance measurements from the Lunar Orbiter Laser Altimeter and temperature measurements from the Diviner Lunar Radiometer Experiment. Icarus, 2017, 292, 74-85.	1.1	119

#	Article	IF	Citations
40	A multi-wavelength IR laser for space applications. Proceedings of SPIE, 2017, , .	0.8	1
41	Reflector placement for providing near-continuous solar power to robots in Shackleton Crater. , 2017, , .		3
42	A tale of two poles: Toward understanding the presence, distribution, and origin of volatiles at the polar regions of the Moon and Mercury. Journal of Geophysical Research E: Planets, 2017, 122, 21-52.	1.5	69
43	Human Assisted Robotic Vehicle Studies - A conceptual end-to-end mission architecture. Acta Astronautica, 2017, 140, 380-387.	1.7	3
44	Summary of the results from the lunar orbiter laser altimeter after seven years in lunar orbit. Icarus, 2017, 283, 70-91.	1.1	116
45	Surviving global risks through the preservation of humanity's data on the Moon. Acta Astronautica, 2018, 146, 161-170.	1.7	6
46	Orbit determination of the Lunar Reconnaissance Orbiter: Status after seven years. Planetary and Space Science, 2018, 162, 2-19.	0.9	39
47	The New Moon: Major Advances in Lunar Science Enabled by Compositional Remote Sensing from Recent Missions. Geosciences (Switzerland), 2018, 8, 498.	1.0	11
48	Lunar Drilling â€“ Challenges and Opportunities. , 2018, , .		3
49	Advanced illumination modeling for data analysis and calibration. Application to the Moon. Advances in Space Research, 2018, 62, 3214-3228.	1.2	19
51	Radial velocities. , 0, , 17-80.		0
52	Astrometry. , 0, , 81-102.		0
53	Timing. , 0, , 103-118.		0
54	Microlensing. , 0, , 119-152.		0
56	Host stars. , 0, , 373-428.		0
57	Brown dwarfs and free-floating planets. , 0, , 429-448.		0
58	Formation and evolution. , 0, , 449-558.		0
59	Interiors and atmospheres. , 0, , 559-648.		0

#	Article	IF	Citations
60	The solar system. , 0, , 649-700.		0
68	Lidar Sensors From Space. , 2018, , 412-434.		6
69	Lunar and Martian Silica. Minerals (Basel, Switzerland), 2018, 8, 267.	0.8	19
70	Transits. , 0, , 153-328.		0
71	Direct evidence of surface exposed water ice in the lunar polar regions. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 8907-8912.	3.3	324
72	Experimenting with Mixtures of Water Ice and Dust as Analogues for Icy Planetary Material. Space Science Reviews, 2019, 215, 1.	3.7	29
73	Age constraints of Mercury's polar deposits suggest recent delivery of ice. Earth and Planetary Science Letters, 2019, 520, 26-33.	1.8	19
74	Analyses of Lunar Orbiter Laser Altimeter 1,064â€nm Albedo in Permanently Shadowed Regions of Polar Crater Flat Floors: Implications for Surface Water Ice Occurrence and Future In Situ Exploration. Earth and Space Science, 2019, 6, 467-488.	1.1	24
75	Meteoroids at the Moon: Orbital Properties, Surface Vaporization, and Impact Ejecta Production. Journal of Geophysical Research E: Planets, 2019, 124, 752-778.	1.5	49
76	Design and Characterization of the Multi-Band SWIR Receiver for the Lunar Flashlight CubeSat Mission. Remote Sensing, 2019, 11, 440.	1.8	5
77	Analyzing the ages of south polar craters on the Moon: Implications for the sources and evolution of surface water ice.. Icarus, 2020, 336, 113455.	1.1	53
78	Improving the geometry of Kaguya extended mission data through refined orbit determination using laser altimetry. Icarus, 2020, 336, 113454.	1.1	8
79	NASA Revolutionary Aerospace Systems Concepts Academic Linkage (RASC-AL) Design Competition First Place Winning Paper - University of Puerto Rico, MayagÃ¼ez. , 2020, , .		0
80	Stratigraphy of Ice and Ejecta Deposits at the Lunar Poles. Geophysical Research Letters, 2020, 47, e2020GL088920.	1.5	32
81	Temperatureâ€Dependent Changes in the Normal Albedo of the Lunar Surface at 1,064Ânm. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006338.	1.5	4
82	Assessing the Roughness Properties of Circumpolar Lunar Craters: Implications for the Timing of Waterâ€Ice Delivery to the Moon. Geophysical Research Letters, 2020, 47, e2020GL087782.	1.5	13
83	Mapping the Predicted Solar Wind Hydrogen Flux in Lunar South Pole Craters. Planetary Science Journal, 2020, 1, 13.	1.5	8
84	Bulk composition of regolith fines on lunar crater floors: Initial investigation by LRO/Mini-RF. Earth and Planetary Science Letters, 2020, 541, 116274.	1.8	18

#	Article	IF	Citations
85	Meteoroid Bombardment of Lunar Poles. Astrophysical Journal, 2020, 894, 114.	1.6	8
86	Geologic context and potential EVA targets at the lunar south pole. Advances in Space Research, 2020, 66, 1247-1264.	1.2	22
87	Assessing the survivability of biomarkers within terrestrial material impacting the lunar surface. Icarus, 2021, 354, 114026.	1.1	4
88	Numerical modeling of the formation of Shackleton crater at the lunar south pole. Icarus, 2021, 354, 113992.	1.1	9
89	The spectral radiance of indirectly illuminated surfaces in regions of permanent shadow on the Moon. Acta Astronautica, 2021, 180, 25-34.	1.7	7
90	Geomorphic Evidence for the Presence of Ice Deposits in the Permanently Shadowed Regions of Scottâ€Ɛ Crater on the Moon. Geophysical Research Letters, 2021, 48, e2020GL090780.	1.5	14
91	Small Penetrator Instrument Concept for the Advancement of Lunar Surface Science. Planetary Science Journal, 2021, 2, 38.	1.5	5
92	Early steps toward the lunar base deployment: Some prospects. Acta Astronautica, 2021, 181, 28-39.	1.7	22
93	Temperatures Near the Lunar Poles and Their Correlation With Hydrogen Predicted by LEND. Journal of Geophysical Research E: Planets, 2021, 126, e2020JE006598.	1.5	11
94	Basic Lunar Topography and Geology for Space Scientists. Uju Gisulgwa Eungyong, 2021, 1, 217-240.	0.1	2
95	Secondary Impact Burial and Excavation Gardening on the Moon and the Depth to Ice in Permanent Shadow. Journal of Geophysical Research E: Planets, 2021, 126, e2021JE006933.	1.5	14
97	Impact Gardening as a Constraint on the Age, Source, and Evolution of Ice on Mercury and the Moon. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006172.	1.5	43
98	New Illumination and Temperature Constraints of Mercuryâ€™s Volatile Polar Deposits. Planetary Science Journal, 2020, 1, 57.	1.5	11
99	Analyzing Surface Ruggedness Inside and Outside of Ice Stability Zones at the Lunar Poles. Planetary Science Journal, 2021, 2, 213.	1.5	12
100	Space lidars and Interplanetary Laser Ranging and Communication Experiments Performed by NASA GSFC. , 2013, , .		0
101	Lunar Atmosphere. , 2015, , 1-6.		1
102	Albedo Observation by Hayabusa2 LIDAR: Instrument Performance and Error Evaluation. , 2016, , 49-64.		0
103	Lunar Regolith: Materials. , 2016, , 1-7.		3

#	Article	IF	Citations
104	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
105	Lunar Reconnaissance Orbiter (LRO) Mission. , 2018, , 1-20.		0
106	Optical and mechanical designs of the multi-band SWIR receiver for the Lunar Flashlight CubeSat mission. , 2018, , .		0
107	The Lunar Flashlight CubeSat instrument: A compact SWIR laser reflectometer to quantify and map water ice on the surface of the Moon. , 2018, , .		1
108	A Path Planning Algorithm Based on Improved RRT for Lunar Subsurface Autonomous Burrowing Robot. , 2020, , .		0
109	Depth to Diameter Analysis on Small Simple Craters at the Lunar South Poleâ€”Possible Implications for Ice Harboring. Remote Sensing, 2022, 14, 450.	1.8	3
110	Sizeâ€“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.	1.1	4
111	Lunar shelter construction issues: The state-of-the-art towards 3D printing technologies. Acta Astronautica, 2022, 195, 318-343.	1.7	16
112	Geomorphic map and science target identification on the Shackleton-de Gerlache ridge. Icarus, 2022, 379, 114963.	1.1	13
113	Volatile interactions with the lunar surface. Chemie Der Erde, 2022, 82, 125858.	0.8	26
114	Polar Ice on the Moon. , 2022, , 1-9.		2
115	Simulated Lunar Surface Hydration Measurements using Multispectral Lidar at 3 Âµm. Earth and Space Science, 0, , .	1.1	0
116	A photometric study of regolith intimate mixing with ice-like impurity. European Physical Journal Plus, 2022, 137, .	1.2	0
117	Lunar polar illumination and electrical field environment simulation based on a conceptual design for China’s Chang’E-7 mission. Scientia Sinica: Physica, Mechanica Et Astronomica, 2023, 53, 249611.	0.2	1
118	New Constraints on the Volatile Deposit in Mercuryâ€™s North Polar Crater, Prokofiev. Planetary Science Journal, 2022, 3, 188.	1.5	5
119	Characteristics of de Gerlache crater, site of girlands and slope exposed ice in a lunar polar depression. Icarus, 2022, 388, 115231.	1.1	5
120	Using Laser Altimetry to Finely Map the Permanently Shadowed Regions of the Lunar South Pole Using an Iterative Self-Constrained Adjustment Strategy. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2022, 15, 9796-9808.	2.3	3
121	Surface Conditions and Resource Accessibility at Potential Artemis Landing Sites 007 and 011. Planetary Science Journal, 2022, 3, 224.	1.5	5

#	Article	IF	Citations
122	Surface Roughness Variation Across Polar Ice Deposit Boundaries on Mercury. Journal of Geophysical Research E: Planets, 2022, 127, .	1.5	1
123	LROâ€ŁAMP Survey of Lunar South Pole Cold Traps: Implication for the Presence of Condensed H₂O. Journal of Geophysical Research E: Planets, 2022, 127, .	1.5	4
124	Derivation of 1.064 Î¼m normal albedos on the C-type asteroid Ryugu from laser pulse intensity measurement of the Hayabusa2 LIDAR. Earth, Planets and Space, 2022, 74, .	0.9	2
125	The Distribution and Accessibility of Geologic Targets near the Lunar South Pole and Candidate Artemis Landing Sites. Planetary Science Journal, 2022, 3, 275.	1.5	6
126	Illumination and regolith temperature at Chinaâ€™s next candidate lunar landing site Shackleton crater. Science China Earth Sciences, 2023, 66, 417-429.	2.3	2
127	ä¸å›½åŽç»æœˆçƒæŽ¢æµ‹å€™é€‰ç€é™†åŒºæ²™å…‹å°”é¡¿æ’žå‡»å‘ç‚¹å…‰ç…§åŠå…¶é£ŽåŒ–å±‚æ¸©åº¦. SCIENTIA SINICA Terrae,	0.1	0
128	Laboratory measurements show temperature-dependent permittivity of lunar regolith simulants. Earth, Planets and Space, 2023, 75, .	0.9	2
129	Conceptual Navigation and Positioning Solution for the Upcoming Lunar Mining and Settlement Missions Based on the Earthâ€™s Mining Experiences: Lunar Regional Navigation Transceiver System. Minerals (Basel, Switzerland), 2023, 13, 371.	0.8	1
130	Research of Lunar Water-Ice and Exploration for Chinaâ€™s Future Lunar Water-Ice Exploration. Space: Science & Technology, 2023, 3, .	1.0	1
131	Illumination conditions near the Moon's south pole: Implication for a concept design of China's Changâ€™Eâˆ’7 lunar polar exploration. Acta Astronautica, 2023, 208, 74-81.	1.7	9
132	Buried Ice Deposits in Lunar Polar Cold Traps Were Disrupted by Ballistic Sedimentation. Journal of Geophysical Research E: Planets, 2023, 128, .	1.5	2
133	Exploration of the Moon by Automatic Spacecraft. Cosmic Research, 2023, 61, 46-69.	0.2	0
134	Polar Ice on the Moon. , 2023, , 971-980.		1
135	Lunar Regolith: Materials. , 2023, , 799-805.		0
136	Lunar Atmosphere. , 2023, , 443-448.		0
137	Lunar Reconnaissance Orbiter (LRO) Mission. , 2023, , 777-796.		0
138	Design of a Novel Lunar Transportation System (FLOAT) consisting of Diamagnetically-Levitated Robots on a Flexible Film Track. , 2023, , .		0
139	Elevation Changes and Slope that May Affect EVA Workload Near Potential Artemis Landing Sites. , 2023, , .		0

#	Article	IF	Citations
144	Design of a Foldable Laser-Based Energy Transmission System for a Mini Lunar Rover. , 2023, , .		0
158	Cold-trapped ices at the poles of Mercury and the Moon. , 2024, , 1-29.		0
159	A Soft Spherical Robot for Lunar Crater Exploration. , 2024, , .		0