

Tuesday, March 20, 2018

[T341]

POSTER SESSION I: PLANETARY MISSION CONCEPTS II: MOON

6:00 p.m. Town Center Exhibit Area

Xu L. Zou Y. L. Wu J. **POSTER LOCATION #632**
[Preliminary Imagines for the Planning and Its Scientific Objectives of China's Lunar Research Station](#) [#1856]

Preliminary imagines for the planning of China's lunar research station on the Moon's south pole by way of implementation of the 3–4 missions during the period of 2020–2030.

Denevi B. W. Blewett D. T. Hurley D. M. Cahill J. T. S. Klima R. L. et al. **POSTER LOCATION #633**
[The Lunar Compass Rover Mission Concept: Exploring a Magnetic Anomaly](#) [#1732]

Lunar Compass can address key planetary science topics including planetary magnetism, space plasma physics, geology, space weathering, and the lunar water cycle.

Kerber L. Nesnas I. Keszthelyi L. Head J. W. Denevi B. et al. **POSTER LOCATION #634**
[Moon Diver: A Discovery Mission Concept for Understanding the History of the Mare Basalts Through the Exploration of a Lunar Mare Pit](#) [#1956]

Dive into the Moon / Come prepared to rappel / Mysteries revealed.

Colaprete A. Elphic R. C. Shirley M. Siegler M. Beyer R. **POSTER LOCATION #635**
[Resource Prospector: Evaluating the ISRU Potential of the Lunar Poles](#) [#2698]

This talk provides an overview of the Resource Prospector site analysis, process, data products, and tools used to select a site and mission planning.

Roush T. L. Teodoro L. F. A. Colaprete A. Cook A. Elphic R. **POSTER LOCATION #636**
[Observing Ice Sublimation from Water-Doped Lunar Simulant at Cryogenic Temperatures](#) [#2002]

Water-doped cryogenic lunar simulant Near-IR H₂O ice band depths exhibit exponential decay after percussive activity, enabling sublimation time-scale estimation.

Barber S. J. Sargeant H. M. Sheridan S. Wright I. P. Ballard A. et al. **POSTER LOCATION #637**
[L-DART: A Penetrator Mission for Lunar Permanently Shadowed Regions](#) [#2941]

L-DART is a proposed penetrator mission to measure volatiles, thermal, and geotechnical properties, and obtain images within lunar permanently shadowed regions.

Fisher K. R. Niles P. B. **POSTER LOCATION #638**
[Lunar Recycler: Reusable Robotic Lunar Sample Return Vehicle Architectures](#) [#2729]

Lunar Recycler / Bringing samples from the Moon / Again and again.

Clark P. E. Bugby D. Chin K. **POSTER LOCATION #639**
[Low-Cost Distributed Networks for Lunar Geophysical or Environmental Monitoring](#) [#1269]

We are in the process of developing and testing prototypes for compact, low-cost *in situ* lunar geophysical or environmental measurement packages.

Calzada-Diaz A. Acierno K. Lamamy J. A. **POSTER LOCATION #640**
[ispace's Roving Spectrometer Project: A Commercial ISRU Exploration Mission to the South Pole of the Moon](#) [#1903]

This work provides the background, the rationales, and the scientific objectives for the ispace Roving Spectrometer project, a lunar ISRU exploratory mission.

Sefton-Nash E. Carpenter J. D. Fisackerly R. Trautner R.
ESA Lunar Exploration Team et al. **POSTER LOCATION #641**
[PROSPECT: ESA's Package for Resource Observation and In-Situ Prospecting for Exploration, Commercial Exploitation, and Transportation](#) [#2740]

PROSPECT is a drill and sample analysis payload in development by ESA for international lunar exploration missions, including Russia's Luna-27.

Barber S. J. Wright I. P. Abernethy F. Anand M. Dewar K. R. et al. **POSTER LOCATION #642**
[ProSPA: Analysis of Lunar Polar Volatiles and ISRU Demonstration on the Moon](#) [#2172]

ProSPA is a miniature chemical analysis laboratory to investigate lunar polar volatiles as part of the Roscosmos-ESA Luna-27 mission in 2022.

Wimmer-Schweingruber R. F. Zhang S. Hellweg C. E. Yu J.
Guo J. et al. **POSTER LOCATION #643**
[The Lunar Lander Neutron and Dosimetry \(LND\) Experiment on Chang'e4](#) [#1413]

Chang'e4 is scheduled to launch to the far side of the Moon in December 2018. LND will measure the radiation environment in preparation of human exploration.

Cohen B. A. Petro N. E. Lawrence S. J. Clegg S. M. Denevi B. W. et al. **POSTER LOCATION #644**
[Curie: Constraining Solar System Bombardment Using In Situ Radiometric Dating](#) [#1029]

The Curie mission would constrain solar system bombardment history by conducting *in situ* dating of samples of the impact melt of a major pre-Imbrium basin.

Tazi K. Warren T. J. Bowles N. **POSTER LOCATION #645**
[A Goniometer Light Source Design for Evaluating Three-Dimensional Thermal Infrared Emission from Lunar and Asteroid Analogue Regolith Samples](#) [#2013]

Improvements made to the Oxford Space Environment Goniometer in order to measure anisotropic re-radiation for airless body samples.

Teodoro L. Elphic R. Colaprete A. Roush T. Kleinhenz J. E. et al. **POSTER LOCATION #646**
[Modeling of Volatiles Loss During Lunar Resource Prospector Mission Sample Acquisition](#) [#1894]

We present the numerical results of large scale molecular simulations of water molecules during Resource Prospector sample acquisition.

Song W. Li F. Panning M. Kedar S. Weber R. et al. **POSTER LOCATION #647**
[Planetary Subsurface Exploration with Smart Seismic Networks](#) [#1629]

We design a smart seismic network that can enable future science mission for high-resolution planetary subsurface exploration.