

Thursday, March 20, 2014

[R703]

**POSTER SESSION: LUNAR VOLATILES:
IMPLANTED, ACCUMULATED, AND ENDOGENOUS
6:00 p.m. Town Center Exhibit Area**

Sanin A. B. Mitrofanov I. G. Litvak M. L. Boynton W. V. Chin G. et al. **POSTER LOCATION #43**
[Estimation of Hydrogen Concentration in Lunar South Polar Regions](#) [#1358]

Results of LEND, LOLA, and Diviner multi-instrument data analysis to find minimal depth and low limit of hydrogen concentration in regolith will be presented.

Mandt K. E. Greathouse T. K. Retherford K. D. Gladstone G. R. Hendrix A. R. et al. **POSTER LOCATION #44**
[Evaluation of Time Variability of Water Frost in the South Pole Permanently Shaded Regions Using the LRO Lyman Alpha Mapping Project \(LAMP\)](#) [#2412]

We use data from the Lunar Reconnaissance Orbiter (LRO) Lyman Alpha Mapping Project (LAMP) to study seasonal variability of surface frost at the south pole.

Rickman D. Gertsch L. **POSTER LOCATION #45**
[Constraints on Transport and Emplacement Mechanisms of Labile Fractions in Lunar Cold Traps](#) [#2695]

Recent data allow some constraints to be identified for the mechanisms that transport and concentrate “volatile” molecules in lunar cold traps.

Aye K.-M. Paige D. A. Siegler M. A. Sefton-Nash E. Greenhagen B. T. **POSTER LOCATION #46**
[Diviner Monitoring of Coldest Lunar Polar Regions](#) [#2893]

Several years of DIVINER data monitoring the coldest lunar south polar regions have been recalibrated. New minimum brightness temperatures are between 25 and 30 K.

Su J. J. Sagdeev R. Boynton W. V. Chin G. Evans L. G. et al. **POSTER LOCATION #47**
[Fine Structure Neutron Suppression Structure in Lunar Polar Region](#) [#2329]

We demonstrate the results of applied deconvolution to reconstruct fine structures of PSRs (permanent shadowed regions) in Cabeus and Shoemaker.

Mazarico E. Nicholas J. B. Neumann G. A. Smith D. E. Zuber M. T. **POSTER LOCATION #48**
[Illumination Conditions at the Poles of the Moon and Mercury, and Application to Data Analysis](#) [#1867]

Modeling of the illumination conditions at the poles of the Moon and Mercury enable data calibration and analysis of other measurements (Ly-alpha, neutron).

Calla O. P. N. Jangid M. Mathur S. **POSTER LOCATION #49**
[Study of Shackleton Crater: Integration of Monostatic and Bistatic Observation from Mini-RF and Arecibo](#) [#1803]

Combined study bistatic and monostatic observation using CPR, phase angle, DoP, relative phase, etc., have been analyzed in order to explore Shackleton crater.

Fa W. Cai Y. **POSTER LOCATION #50**
[An Explanation of Anomalous Craters over the Lunar Polar Regions in Mini-RF Images Other than Water Ice](#) [#1345]

The elevated CPRs in the interior of anomalous craters are most probably caused by surface rocks, instead of water ice as pointed out in previous studies.

Farrell W. M. Hurley D. M. Zimmerman M. I. **POSTER LOCATION #51**
[Solar Wind Implantation into Lunar Regolith: H Retention in a Surface with Defects](#) [#2039]

We examine solar wind implantations and H retention times as a function of surface temperature and distribution of defect-related activation energy.

Livengood T. A. Boynton W. V. Chin G. Evans L. G. Litvak M. L. et al. **POSTER LOCATION #52**
[Neutron Remote-Sensing at the Moon: Modeling the Empirical Variation with Altitude of Neutron Flux for the Lunar Exploration Neutron Detector \(LEND\) \[#2592\]](#)

The portion of lunar-sourced neutrons detected by LEND in collimation can be deduced from altitude variation. It is needed to estimate H concentrations in PSRs.

Livengood T. A. Chin G. Sagdeev R. Z. Mitrofanov I. G. Boynton W. V. et al. **POSTER LOCATION #53**
[Evidence for Diurnally Varying Hydration at the Moon's Equator from the Lunar Exploration Neutron Detector \(LEND\) \[#1507\]](#)

Water can be found at the Moon's dawn terminator at the peak of a daily cycle of dehydration and rehydration, equivalent to a frost 0.2 mm thick.

Prettyman T. H. Lawrence D. J. Feldman W. C. **POSTER LOCATION #54**
[Could Lunar Endogenic Hydrogen be Hiding in Plain Sight? \[#2451\]](#)

An analysis of Lunar Prospector neutron data reveals elevated concentrations of hydrogen in KREEP-rich regions. Could a portion of this hydrogen be endogenic?

Bhattacharya S. Chauhan M. Chauhan P. **POSTER LOCATION #55**
[OOS Lithology and Detection of Magmatic Water at the Rim of Sinus Iridium in Association with Olivine of Possible Mantle Origin \[#1816\]](#)

We report the presence of an orthopyroxene-olivine-spinel (OOS) suite of rocks from the rim of Sinus Iridium and detection of magmatic water associated with olivine.

Mortimer J. I. Verchovsky A. B. Anand M. Gilmour I. Pillinger C. T. **POSTER LOCATION #56**
[Simultaneous Analysis of Abundance and Isotopic Composition of Helium, Neon, and Argon in Lunar Basalts \[#2503\]](#)

Simultaneous multiple-step stepwise heating analyses of noble gases in lunar mare basalts, revealing lunar indigenous noble gas signatures in some samples.

Mortimer J. I. Verchovsky A. B. Anand M. Gilmour I. Pillinger C. T. **POSTER LOCATION #57**
[Simultaneous Analysis of Abundance and Isotopic Composition of Nitrogen and Carbon in Lunar Basalts \[#2529\]](#)

Simultaneous stepwise heating analyses of N and C in lunar mare basalts, revealing indigenous lunar N-isotopic composition and C/N ratios of the lunar mantle.