IT TURNS OUT THAT RADIATION DOESN’T GIVE ROCKS SUPER POWERS

1:30 p.m. Montgomery Ballroom

Chairs: Rachel Klima
        Jeffrey Gillis-Davis

1:30 p.m. Keller L. P.  *  Berger E. L.  Christoffersen R.  Zhang S.

Direct Determination of the Space Weathering Rates in Lunar Soils and Itokawa Regolith from Sample Analyses [#2525]

We directly determined space weathering rates for lunar soils and Itokawa grains.

1:45 p.m. Burgess K. D.  *  Stroud R. M.

Nanophase Fe-Oxide, Fe-Sulfide, and Ilmenite in High-Ti Lunar Soil [#2021]

High resolution measurements of space weathered lunar soil show nanocrystals include a range of compositions and oxidation states in addition to metallic Fe.

2:00 p.m. Corley L. M.  *  Gillis-Davis J. J.  Lucey P. G.  Trang D.

Space Weathering at the Lunar Poles: The Effect of Temperature on Reflectance of Materials Weathered by Laser Irradiation [#2692]

We compare the reflectance and submicroscopic iron produced for minerals laser space weathered at room temperature and temperatures comparable to PSRs.


Compositional and Microstructural Evolution of Olivine Under Multiple-Cycle Pulsed Laser Irradiation as Revealed by FIB/Field-Emission TEM [#2747]

Pulsed laser impact / Melt and vapor mixed together / Makes olivine dark.

2:30 p.m. Gillis-Davis J. J.  *

Laser Space Weathering of Possible (1) Ceres Analogs [#1857]

Laser space weathering of (1) Ceres analogs show how spectra of minerals and simple mineral mixtures change in response to micrometeorite simulated impacts.

2:45 p.m. Thompson M. S.  *  Zega T. J.  Howe J. Y.

Simulation of Micrometeorite Impacts Through In Situ Dynamic Heating of Lunar Soil [#2744]

We subject lunar soils to thermal shocks inside the transmission electron microscope to simulate space weathering processes.

3:00 p.m. Kulchitsky A. V.  *  Hurley D. M.  Johnson J. B.  Duvoy P.  Zimmerman M.

Particle Size Distribution Influence on Access of Solar Wind to Lunar Regolith [#2934]

This work quantifies the relationship between lunar regolith particle size distribution and solar wind access to buried grains of the regolith.