Multispectral Imaging of Hydrothermal Alteration Terrains Using an ExoMars PanCam Prototype [#1333]

Results of a field test of an ExoMars PanCam prototype in terrain typified by small-scale hydrothermal alteration products.

Automated Core Sample Analysis by the Mars Microbeam Raman Spectrometer (MMRS) On-Board the Zoe Rover in Atacama: A Terrestrial Test for Mars Exploration [#2428]

MMRS performed well in the first autonomous life in the Atacama campaign. Minerals were unambiguously identified; different depth distributions were observed.

The Persistence of a Chlorophyll Spectral Biosignature from Martian Evaporite and Spring Analogues Under Mars-Like Conditions [#2844]

Following exposure to Mars-like conditions, chlorophyll in spring sediment and evaporite endolith samples is detectable using Mastcam and Pancam spectra.

Polycyclic aromatic hydrocarbons exhibit differences in both 532-nm induced fluorescence spectra and the positions of Raman peaks as a function of composition.

Detection Limits of Polycyclic Aromatic Hydrocarbons (PAHs) in Martian Soil Simulant JSC-Mars-1 [#1572]

Fluorescence, reflectance, and Raman spectroscopic techniques for the detection of PAHs in martian regolith simulant show detection limits as low as tens of ppm.

Spectrophotometric characterization of various Mars analogs in the VIS spectral range and implication for remote-sensing studies of the martian surface.

Mars surface properties (e.g., grain size, induration, layering, chemistry) strongly affect thermal conductivity. Lab improves interpretation of temperature datasets.

Preliminary results of a field test campaign in the Moroccan desert for the study of dust lifting processes and its relation with atmospheric electric properties.

A rover-borne magnetometer can characterize ancient martian lightning strikes, constraining paleoclimate and informing biomarker sample selection.