

Thursday, March 24, 2016

[R645]

**POSTER SESSION II: INSTRUMENT CONCEPTS:
NIR, GAMMA-RAY, MASS, AND LIBS SPECTROMETERS
6:00 p.m. Town Center Exhibit Area**

Hadnott B. H. Hodyss R. Cable M. L. Vu T. H. Hayes A. H. **POSTER LOCATION #659**
[Near Infrared Spectroscopy of Liquid Hydrocarbon Mixtures: Application for In-Situ Titan Lake Mission](#) [#2051]

Near-infrared spectra of liquid hydrocarbons collected using a prototype fiber optic probe instrument are presented as a proof-of-concept for Titan missions.

Uckert K. Chanover N. J. Voelz D. G. Xiao X. Hull R. et al. **POSTER LOCATION #660**
[Near-IR Reflectance Spectroscopy in a Lava Tube Cave from a Robotic Platform](#) [#2671]

We describe a pilot effort to integrate a near-infrared point spectrometer developed for operation on a robotic platform with the LEMUR rock climbing robot.

Peplowski P. N. Lawrence D. J. Goldsten J. O.
Burks M. Beck A. W. et al. **POSTER LOCATION #661**
[Gamma-Ray Spectroscopy of Asteroid 16 Psyche: Expected Performance of the Psyche Gamma-Ray Spectrometer](#) [#1394]

We present the expected performance of the gamma-ray spectrometer on the Psyche mission to asteroid 16 Psyche.

Lawrence D. J. Peplowski P. N. Goldsten J. O.
Burks M. Beck A. W. et al. **POSTER LOCATION #662**
[The Psyche Gamma-Ray and Neutron Spectrometer: Characterizing the Composition of a Metal-Rich Body Using Nuclear Spectroscopy](#) [#1622]

The Psyche Gamma-Ray and Neutron Spectrometer will measure elemental and metal-to-silicate compositions at the metal-rich asteroid 16 Psyche.

Southard A. E. Getty S. A. Ferrance J. P. Balvin M. A. Elsila J. E. et al. **POSTER LOCATION #663**
[OASIS: A Liquid Chromatograph-Mass Spectrometer for Detection of Organics on Icy Surfaces](#) [#2606]

The OASIS instrument is designed to use LCMS to inventory organic molecules on icy bodies including Europa and Enceladus, the Moon's South Pole, and comets.

Li X. Grubisic A. Getty S. A. Brinckerhoff W. B. van Amerom F. et al. **POSTER LOCATION #664**
[Development of the Switchable Ion Polarity on Linear Ion Trap Mass Spectrometry \(LITMS\)](#) [#2707]

The miniature linear ion trap mass spectrometer (LITMS) features substantial analytical enhancements like dual polarity ion mode and evolved gas analysis.

Pinnick V. T. Danell R. M. van Amerom F. H. W.
Arevalo R. D. Jr. Grubisic A. et al. **POSTER LOCATION #665**
[Mars Organic Molecule Analyzer \(MOMA\) Mass Spectrometer Flight Model Integration and Test](#) [#2770]

We describe progress in the development and testing of the flight mass spectrometer subsystem of the Mars Organic Molecule Analyzer (MOMA) experiment ExoMars.

Terada K. Kawai Y. Toyoda M. Ishihara M. Aoki J. et al. **POSTER LOCATION #666**
[Development on Multi-Turned TOF SIMS with a Femto-Second Laser for Post-Ionization: First Application to Extraterrestrial Materials](#) [#1958]

We report on a development of multi-turned TOF-SIMS with a femto-second laser for post-ionization that is suitable for presolar SiC grains.

Getty S. A. Grubisic A. Uckert K. Li X. Cornish T. et al. **POSTER LOCATION #667**
[Two-Step Resonance-Enhanced Desorption Laser Mass Spectrometry for In Situ Analysis of Organic-Rich Environments](#) [#2693]

Two-step laser mass spectrometry exhibits resonance enhancements through desorption-laser coupling to vibrational modes of molecules or hydrated minerals.

Goetz W. Arevalo R. Jr. Pinnick V. Danell R. Getty S. et al. **POSTER LOCATION #668**
[Characterization of Mineral Targets by Laser Desorption and Ionization in Preparation of the MOMA Investigation Onboard the ExoMars-2018 Rover](#) [#2614]

The MOMA instrument aboard the ExoMars-2018 rover shall search for organic molecules on Mars. Here we explore its capability to characterize inorganic minerals.

Foster S. B. Levine J. Anderson F. S. Whitaker T. J. **POSTER LOCATION #669**
[Using Laser Ablation Mass Spectrometry to Aid Resonance Ionization for Spaceflight Dating](#) [#2070]

Tools share same hardware. One for dating isotopes, Other adds context.

Breves E. A. Lepore K. Dyar M. D. Bender S. C. Tokar R. L. **POSTER LOCATION #670**
[Laser-Induced Breakdown Spectra of Rock Powders at Variable Ablation and Collection Angles Under a Mars-Analog Atmosphere](#) [#1206]

Quantifies ablation/collection geometry-dependent variation in LIBS signal return for rocks of basaltic to rhyolitic composition under Mars-analog atmosphere.

Maurice S. Wiens R. C. Rapin W. Mimoun D. Jacob X. et al. **POSTER LOCATION #671**
[A Microphone Supporting LIBS Investigation on Mars](#) [#3044]

Concept of a microphone for a Mars rover to support Laser Induced Breakdown Spectroscopy (LIBS) studies.

Devismes D. Cohen B. A. **POSTER LOCATION #672**
[Continued Development of In Situ Geochronology for Planetary Using KArLE \(Potassium-Argon Laser Experiment\)](#) [#2046]

The development of KArLE has led to investigate some new protocols to measure the ablated volume/mass based on the LIBS spectra and on the plasma deposits.