Tuesday, March 14, 2006
POSTER SESSION I: TERRESTRIAL LABORATORY ANALOG STUDIES
7:00 p.m. Fitness Center

McCormack K. Cloutis E. Bell J. F. III Stewart L. Kaletzke L. Craig M.
Determining Mineral Composition in the Ultraviolet Spectral Region from 200 to 400 Nanometres **[#2158]**
Ultraviolet (200–400 nm) reflectance spectra of major rock-forming minerals (e.g., olivine, pyroxene, plagioclase feldspar, ilmenite) exhibit measurable differences in their spectral properties. This suggests that these minerals can be discriminated in the UV.

Kuebler K. Wang A. Freeman J. J. Jolliff B. L.
Database of Raman Mineral Spectra for Planetary Surface Exploration **[#1907]**
A database of Raman mineral spectra is presented, which will be posted on line. It includes representatives of the most important mineral groups, especially those for the *in-situ* mineralogical investigation of planetary materials.

Clegg S. M. Wiens R. C. Sharma S. K. Lucey P. Misra A. Barefield J.
LIBS — Raman Spectroscopy of Minerals Using Remote Surface Modification Techniques **[#2069]**
LIBS and Raman Spectroscopy are highly complementary remote analytical tools developed to explore lunar and planetary geological samples. Here, LIBS was used to remove dust or other coatings that interfere with mineral analysis by Raman spectroscopy.

Sallé B. Mauchien P. Lacour J.-L. Maurice S. Manhès G.
Quantitative Rock Analysis by Laser-induced Breakdown Spectroscopy at the Surface of Mars **[#1560]**
We develop an analytical methodology enabling quantitative analysis of rocks in the context of Remote Laser-Induced Breakdown Spectroscopy, selected as part of the ChemCam instrument package for the MSL rover scheduled to be launched in 2009.

Anderson R. C. Buehler M. G. Keymeulen D. Chin K. B. Seshadri S.
Detecting Water/Ice in Lunar and Martian Regoliths Using Impedance Spectroscopy **[#2073]**
Detecting the presence of water/ice within planetary regoliths is crucial for future manned exploration as well as understanding the geologic history of the surface. This project is directed at fabricating a simple apparatus that can quickly measure water/ice on lunar and planetary surfaces.

Elphic R. C. Lawrence D. J. Feldman W. C.
Mars Airborne Neutron Spectrometry, Relict Ice and Recent Climate Change **[#2460]**
An airborne neutron spectrometer at Mars offers the possibility of achieving a much higher spatial resolution for detection of near surface water ice and hydrous minerals, while achieving greater range than with a rover.

Baratoux D. Pinet P. C. Kaydash V. G. Shkuratov Y. Daydou Y. Besse S. Jehl A. Chevrel S.
The Derivation of Hapke Parameters Using Multi-Angular Observations from Orbit and Laboratory: An Ill-posed Problem **[#1340]**
The derivation of Hapke parameters from multi-angular observations can be an ill-posed inverse problem. We present a direct approach to optimize future and present observations aimed at the derivation of scattering properties of planetary surfaces.

Lauer H. V. Jr. Ming D. W. Golden D. C. Boynton W. V.
Thermal and Evolved Gas Analysis of Geologic Samples Containing Organic Materials: Implications for the 2007 Mars Phoenix Scout Mission **[#1780]**
The Thermal and Evolved Gas Analyzer instrument scheduled to fly onboard the 2007 Mars Phoenix Scout Mission will perform DSC and EGA of soil samples. In this study, we examine two possible modes of detecting organics, namely, pyrolysis and combustion.

Rakocevic L. Dixon J. C. Cothren J. D. Dixon J. B.
Digitization and Web Access of a Historic Collection of Remotely-sensed Imagery **[#1017]**
The goal is to preset a method for digitizing and improving analog remotely-sensed imagery collected using five different platforms during the periods of 60s until 80s to the research community.

Kalchgruber R. McKeever S. W. S. Blair M. W. Deo S. Reust D. K. Gupta S. Strecker B. N.
Development of a Luminescence Dating Device for In Situ Dating of Geomorphological Features on Mars **[#1718]**
We address some of the challenges associated with developing an optically stimulated luminescence (OSL) device for *in situ* dating of sediments on Mars. Results of experiments, using martian simulant materials, as well as the design of an OSL instrument will be described.

Carmona J. A. Cook M. Schmoke J. Hyde T. W.
Low-Velocity Impacts on Targets Containing Embedded Carbon Nanotubes **[#1394]**
A one stage Light Gas Gun at CASPER was employed to test the shielding capabilities of tiles composed of four different laminated nanotube combinations.