

WORKSHOP REPORT: “SPECTROSCOPY OF THE MARTIAN SURFACE: WHAT NEXT?” L. E. Kirkland¹ and A. Treiman¹, ¹Lunar and Planetary Institute, Houston, TX, <kirkland@lpi.jsc.nasa.gov> and <treiman@lpi.jsc.nasa.gov>.

Summary. There is much current debate in the Mars community about which types of instruments should be flown on future missions, and what visible/infrared spectroscopy can add to knowledge about the surface of Mars. In light of that, we would like to convene a focused workshop for the spectroscopy community to address the following: Given the current priorities of the Mars Program, what are the most important questions that spectroscopy should address, and what is the best approach to address them? The workshop is scheduled to occur at the Lunar and Planetary Institute, Houston, TX on 10-11 June. At the 5th Mars Conference we will present a summary of the workshop conclusions.

Goals. The workshop goals are to:

- 1) Summarize past and current orbital, lander-based, and Earth-based spectroscopy of the martian surface, with an honest assessment of their significance for the scientific goals of NASA's Mars Exploration Program, and an assessment of critical unanswered questions.
- 2) Review spectroscopic instruments planned for 1998, 2001, and 2003.
- 3) Have an open and frank discussion about what orbital spectrometers, if any, are needed to attain the critical goals of the Mars Exploration Program, especially as they relate to:
 - 3a) Contributing to the search for possible mineral biomarkers and environments that could preserve signatures of life.
 - 3b) Answering basic questions in geology and volatile budget.
 - 3c) Synergy with landed, rover, balloon or airplane hosted instruments.
 - 3d) Required resolution: spatial vs. spectral vs. radiometric.
 - 3e) Required spatial coverage: global vs. targeted.
 - 3f) Contingency plans: in the event that a currently slated spectral data set is not returned, would requirements/priorities change?

4) Discuss what lander, rover, balloon, or aircraft spectrometers are needed, if any, to attain the critical goals of the Mars Exploration Program, especially as they relate to:

- 4a) Contributing to the search for possible mineral biomarkers and environments that could preserve signatures of life.
- 4b) Answering basic questions in geology and volatile budget.
- 4c) Potential synergy with orbited instruments.
- 4d) Required resolution: spatial vs. spectral vs. radiometric.
- 4e) Contingency plans: in the event that a currently slated spectral data set is not returned, would requirements/priorities change?

The abstracts and discussion will be summarized in a report and presented to Mars Program management.