

Tuesday, March 16, 2004
POSTER SESSION I: MARS MISSIONS
7:00 p.m. Fitness Center

Griffiths A. D. Coates A. J. Josset J.-L. Paar G.

Future Planetary Surface Imager Development by the Beagle 2 Stereo Camera System Team [#2163]

The Stereo Camera System provided Beagle 2 with wide-angle multi-spectral stereo imaging (IFOV=0.043°). The SCS team plans to build on this design heritage to provide improved stereo capabilities to the Pasteur payload of the Aurora ExoMars rover.

Parker T. Malin M. Golombek M. Duxbury T. Johnson A. Guinn J. McElrath T. Kirk R. Archinal B. Soderblom L. Li R. MER Navigation Team Athena Science Team

Localization, Localization, Localization [#2189]

Localization of the two Mars Exploration Rovers involved three independent approaches to place the landers with respect to the surface of Mars and to refine the location of those points on the surface with the Mars control net.

Golombek M. Grant J. Parker T. Crisp J. Squyres S. Carr M. Haldemann A. Arvidson R. Ehlmann B. Bell J. Christensen P. Fergason R. Ruff S. Cabrol N. Kirk R. Johnson J. Soderblom L. Weitz C. Malin M. Rice J. Anderson R. Athena Science Team

Preliminary Assessment of Mars Exploration Rover Landing Site Predictions [#2185]

Preliminary assessment of Mars Exploration Rover landing site predictions made in the evaluation of remote sensing data during selection indicates most of the important surface characteristics were correctly predicted.

Cabrol N. A. Des Marais D. Farmer J. Crumpler L. Grin E. A. Milam K. Grant J. Greeley R. Anderson R. C. Grotzinger J. Arvidson R. Sims M. H. Landis G. Blaney D. Learner Z. A.

de Souza P. A. Jr. Weitz C. Athena Science Team

Spirit at Gusev Crater: Preliminary Observations, Potential Processes and Hypotheses [#2164]

Spirit landed in a flat plain in Gusev crater. Observations (topography, morphology, rocks, soil and surficial material) are tested against hypotheses (aeolian, volcanic, aqueous, glacial, impact) that have been proposed to explain the depositional history of material in Gusev.

Crumpler L. Cabrol N. Des Marais D. Farmer J. Golombek M. Grant J. Greeley R. Grotzinger J. Haskin L. Arvidson R. Squyres S. Learner Z. Li R. Madsen M. B. Malin M. Payne M. Parker T. Seelos F. Sims M. de Souza P. Jr. Wang A. Weitz C. Athena Science Team

MER Field Geologic Traverse in Gusev Crater, Mars: Initial Results From the Perspective of Spirit [#2183]

This report casts the initial results of the traverse and science investigations by the Mars Exploration Rover (MER) Spirit at Gusev crater in terms of data sets commonly used in field geologic investigations.

Greeley R. Thompson S. D. Whelley P. L. Squyres S. Neukum G. Arvidson R. Malin M. Kuzmin R. Christensen P. Rafkin S. Michaels T. Pinet P. Joliff B. Cabrol N. Richter L. Hauber E. Hoffmann H. Jaumann R. Athena Science Team HRSC Science Team Themis Science Team MOC Science Team

Coordinated Observations of Aeolian Features from the Mars Exploration Rovers (MER) and the Mars Express High Resolution Stereo Camera and Other Orbiters [#2162]

Wind-related features were observed by MER and Mars Express orbiter over Gusev crater and Sinus Meridiani to study atmosphere-surface interactions.

Ming D. W. Anderson R. C. Arvidson R. E. Bell J. F. III Biesiadecki J. Christensen P. H. Gorevan S. P. Ehlmann B. L. Guinness E. A. Graff T. G. Fergason R. L. Haldeman A. F. C. Herkenhoff K. E.

Johnson J. R. Jolliff B. L. Landis G. A. Lemmon M. T. Li R. Lindemann R. Matijevic J. R.

Morris R. V. Richter L. Seelos F. P. Smith P. H. Soderblom J. Spanovich N. Squyres S. W.

Sullivan R. J. Yen A. MER Athena Science Team

Soil and Rock Physical Properties at the Mars Exploration Rover Landing Sites: Early Returns [#2181]

The purpose of this paper is to report the "early returns" on the physical properties of soil units and rocks at the MER landing sites.

Landis G. A. Blaney D. Cabrol N. Clark B. C. Farmer J. Grotzinger J. Greeley R. McLennan S. M. Richter L. Yen A. MER Athena Science Team

Transient Liquid Water as a Mechanism for Induration of Soil Crusts on Mars [#2188]

We propose two alternative models to account for the origin of cemented Martian soils, or duricrusts, involving the action of transient liquid water films to mediate adhesion and cementation of grains.

Herkenhoff K. Squyres S. Archinal B. Arvidson R. Bass D. Barrett J. Becker K. Becker T. Bell J. III Burr D. Cook D. Crumpler L. Gaddis L. Ghosh A. Hayes A. Howington-Kraus A. Johnson J. Jolliff B. Kirk R. Lee E. M. Lemmon M. Maki J. McLennan S. Ming D. Morris R. Niebur C. Rice J. Rosiek M. Sims M. Smith P. Spanovich N. Sucharski B. Sucharski T. Sullivan R. Torson J. Weitz C. Magnetic Properties Team Athena Science Team

First Results of the Athena Microscopic Imager Investigation [#2182]

Early results of the Athena Microscopic Imager investigation on the Mars Exploration Rovers will be presented.

Rieder R. Gellert R. Brückner J. Clark B. C. Dreibus G. d'Uston C. Economou T. Klingelhöfer G. Lugmair G. W. Wänke H. Yen A. Zipfel J. Squyres S. W. Athena Science Team

APXS on Mars: Analyses of Soils and Rocks at Gusev Crater and Meridiani Planum [#2172]

Results of the first APXS analyses of the chemical composition of martian soils at Gusev Crater and Meridiani Planum are discussed. Soil compositions are similar at all landing sites. For the first time, small amounts of Ni and Zn were resolved.

Seelos F. P. IV Soderblom J. M. Farrand W. H. Johnson J. R. Sohl-Dickstein J. N. Bell J. F. III Squyres S. W. Arvidson R. E. Morris R. V. McSween H. Y. Calvin W. M. Blaney D. L. Athena Science Team

Mars Exploration Rover Panoramic Camera Multidimensional Analyses and Surface Spectral Variability [#2166]

The spectral variability of the martian surface at the Spirit and Opportunity landing sites is explored through the multidimensional analysis of Mars Exploration Rover (MER) Panoramic Camera (Pancam) multispectral image data.

Glotch T. D. Christensen P. R. Wyatt M. B. Bandfield J. L. Graff T. G. Rogers D. Ruff S. W. Hayes A. G. Morris R. V. Farrand W. Calvin W. Moersch J. E. Ghosh A. Johnson J. R. Fallacaro A. Blaney D. Squyres S. W. Bell J. F. III Klingelhöfer G. Souza P. Athena Science Team

Hematite at Meridiani Planum: Detailed Spectroscopic Observations and Testable Hypotheses [#2168]

The Mini-TES instrument has detected hematite at the Meridiani Planum landing site. Further observations by Mini-TES, coupled with observations by the Mössbauer and Pancam instruments will test theories regarding the formation of the hematite deposit.

Klingelhöfer G. Morris R. V. Bernhardt B. Schröder C. Rodionov D. de Souza P. A. Jr. Yen A. Renz F. Wdowiak T. Squyres S. Athena Science Team

Mössbauer Spectroscopy of Soils and Rocks at Gusev Crater and Meridiani Planum [#2184]

The first Mössbauer measurements on Mars confirm the general basaltic nature of Martian surface materials. All Mössbauer spectra are dominated by the mineral olivine.

Bowman C. D. Bebak M. Bollen D. M. Curtis K. Daniel C. Grigsby B. Herman T. Haynes E. Lineberger D. H. Pieruccini S. Ransom S. Reedy K. Spencer C. Steege A.

Student Interns Work on Mars [#2175]

The Athena Student Interns Program (ASIP) is a joint effort between NASA's Mars Public Engagement Office and the Athena Science Investigation, in which students and teachers work with Athena Science Team mentors to carry out an aspect of the mission.