

Thursday, March 22, 2012

POSTER SESSION II: DAWN OVER VESTA: MORE CHEMISTRY, MORE ROCKS

6:00 p.m. Town Center Exhibit Area

Farina M. Capaccioni F. Carli C. Consolmagno G. J. De Sanctis M. C. Ammannito E. Turrini D.
[Studying HED Meteorites in View of the Analysis of the VIR Spectra of Vesta](#) [#1992]

Howardites, eucrites, and diogenites have been mapped, taking numerous spots on the surface of each slab. Using also Relab spectra we will discuss how spectral reflectance properties differ between powders and slabs.

Usui T. Iwamori H.

[Independent Component Analysis of HED Meteorites: Prospective Study for Interpretation of Gamma-Ray and Neutron Spectra for the Dawn Mission](#) [#2231]

Our eight-component ICA model (computational statistical technique) explains compositional variations, petrographic observations, and mixing relations of the HED suite without assuming any end-member components.

Frigeri A. De Sanctis M. C. Ammannito E. Yingst R. A. Mest S. Capaccioni F. Garry B. Magni G. Palomba E. Petro N. Tosi F. Williams D. Zambon F. Jaumann R. Pieters C. M. Raymond C. A. Russell C. T. Dawn Team

[Correlation Between Preliminary Mineralogic and Geologic Maps of Vesta](#) [#2934]

In this work we will report the comparison of the preliminary geologic map of Vesta with the spectral indicators synthesized from the VIR instrument data on-board the Dawn mission.

Nathues A. Le Corre L. Reddy V. Hoffmann M. Dawn Science Team

[Identification of Vesta Surface Units with Principal Component Analysis by Using Dawn Framing Camera Imagery](#) [#1779]

Multicolor images obtained by the Dawn Framing Camera have been used to create color cubes that have been transformed to PC space for lithology identification.

Mittlefehldt D. W. Li J.-Y. Pieters C. M. De Sanctis M. C. Schroder S. E. Hiesinger H. Blewett D. T. Russell C. T. Raymond C. A. Yingst R. A. Dawn Science Team

[Types and Distribution of Bright Materials on 4 Vesta](#) [#1680]

The surface of 4 Vesta has localized deposits of atypically high-albedo material. Here we define the types of deposits and map their distribution.

Yamashita N. Prettyman T. H. Mafi J. Joy S. Feldman W. C. Forni O. Lawrence D. J. Reedy R. C.
[Data Reduction and Archiving for Dawn's Gamma Ray and Neutron Detector](#) [#2448]

The reduction, analysis, and archiving of data acquired by the NASA Dawn mission's Gamma Ray and Neutron Detector is presented. Processing and analysis steps for determining the abundance of Fe in the surface of Vesta are highlighted.

Palmer E. M. Heggy E. Russell C. T. Asmar S. W. Raymond C. A.

[Exploring Surface and Shallow Subsurface Volatile Presence on Vesta Using a Bistatic Radar Experiment](#) [#2685]

An interesting topic of concern for Vesta is the presence or lack of volatiles. A bistatic radar experiment may help address this question, where data interpretation relies on dielectric models of the surface and shallow subsurface.

Reedy R. C. Prettyman T. H. Yamashita N.

[Backgrounds in Space Cadmium Zinc Telluride \(CZT\) Gamma-Ray Spectrometers](#) [#1284]

Gamma rays made by energetic particles in CdZnTe detectors, such as those on Dawn, are listed and discussed. Most prompt and decay gamma rays are <2 MeV and could be backgrounds to peaks of interest.

Reedy R. C.

[Update on Solar-Proton Fluxes During the Last Five Solar Activity Cycles](#) [#1285]

The event-integrated fluences of energetic solar protons during the last 5 solar cycles (1954–2008) have been reevaluated. Such data are needed to plan for space missions, such as Dawn at Vesta.

Starukhina L. V. McCord T. B.

[*Asteroid Shielding from Solar Wind: Calculation of the Parameters of Magnetospheres*](#) [#1288]

The magnetic field required to protect asteroids from solar wind is calculated as a function of asteroid diameter and heliocentric distance. For asteroid protection, moderate values of dipole magnetic moments and fields on the surfaces are sufficient.

Tosi F. Capria M. T. De Sanctis M. C. Palomba E. Grassi D. Capaccioni F. Ammannito E.
Combe J.-Ph. Sunshine J. M. McCord T. B. Li J.-Y. Titus T. N. Russell C. T. Raymond C. A.
Mittlefehldt D. W. Toplis M. J. Forni O. Sykes M. V.

[*Analysis of Temperature Maps of Selected Dawn Data over the Surface of Vesta*](#) [#1886]

In this work, we present temperature maps of several unusual local-scale features that were observed by Dawn's Visible and Infrared Mapping Spectrometer under different illumination conditions and different local solar times.

Titus T. N. Becker K. J. Anderson A. Capria M. T. Tosi F. De Sanctis M. C. Palomba E. Grassi D.
Capaccioni F. Ammannito E. Combe J.-Ph. McCord T. B. Li J.-Y. Russell C. T. Raymond C. A.
Mittlefehldt D. Toplis M. Forni O. Sykes M. V.

[*Comparison of Observed Surface Temperatures of 4 Vesta to the KRC Thermal Model*](#) [#2851]

In this work, we will compare observed temperatures of the surface of Vesta using data acquired by the Dawn Visible and Infrared Mapping Spectrometer (VIR-MS) during the approach phase to model results from the KRC thermal model.