

PRINT ONLY: MARS

Baker V. R. Dohm J. M. Maruyama S.

Tentative Theories for the Long-Term Geological and Hydrological Evolution of Mars [#1399]

Theories of episodic, short-term hydro-climatic change and long-term geological evolution explain many Mars anomalies: intensely magnetized, ancient highland crust; persistent ancient-to-young water-related activity; layered upper crust; long-term volcano-tectonic activity at Tharsis.

Bérczi Sz. Kereszturi A. Horváth A.

Stratigraphy of Special Layers — Transient Ones on Permeable Ones: Examples from Earth and Mars [#1317]

Our transient and permeable (frost and dark dune) strata studies gave a model of a possible explanation for the seasonal changes in the contact surface between the two layers.

Bruno B. C. Fagents S. A. Thordarson T. Baloga S. M.

Spatial Analysis of Rootless Cone Groups on Iceland and Mars [#1368]

This paper examines the spatial distribution of cones within several Icelandic rootless cone groups (RCGs) in order to better understand the underlying physical processes governing cone distribution and to develop a remote sensing tool to identify RCG's on Mars.

Calvin W. M. Titus T. N.

Summer Season Variability of the North Residual Cap of Mars from MGS-TES [#1455]

We examine summer season variation in albedo of the north residual ice cap. Changes indicative of frost migration are observed.

Fallacaro A. Calvin W. M.

Spectral and Geochemical Characteristics of Lake Superior Type Banded Iron Formation: Analog to the Martian Hematite Outcrops [#1176]

Samples of oxide, carbonate, and silicate facies BIF are measured for their reflectance (0.4 to 2.5 μm), and emittance (5 to 50 μm). The minerals comprising these facies are possible auxiliary minerals to the hematite regions on Mars.

Kochemasov G. G.

Martian Wave Structures and Their Relation to Mars' Shape, Highland-Lowland Chemical Dichotomy and Undulating Atmosphere Causing Serious Problems to Landing Spacecrafts [#1041]

Wave planetary structures of Mars reflect its position in the Solar system. "Orbits make structures" is the main point of the comparative planetology.

Martín-González F. de Pablo M. A. Márquez A.

Shear Deformation in the Graben Systems of Sirenum Fossae, Mars: Preliminary Results [#1485]

In Sirenum Fossae, sigmoidal-shaped and en echelon geometries have raised the importance of a detailed study of their shear deformation in order to measure the total extension, the strain ellipsoid, etc.

Maxe L. P.

Components of Martian Dust Finding on Terrestrial Sedimentary Deposits with Use of Infrared Spectra [#1291]

It was supposed that Mars can have rests of sedimentary deposits that were transformed. Finding of components in the composition of Martian was possible with use of infrared spectra and sapropels and trepel.

Mest S. C. Crown D. A.

Morphologic and Morphometric Analyses of Fluvial Systems in the Southern Highlands of Mars [#1844]

Geologic and geomorphic mapping, image analysis, and hydrologic modeling are being used to characterize the morphology and morphometry of circum-Hellas and circum-Isidis valley networks in order to determine the process(es) of network formation.

Moen A.

Light Pattern and Intensity Analysis of Gray Spots Surrounding Polar Dunes on Mars [#1027]

Examination of polar dunes spots using: (1) orientation of spots to sun azimuth, (2) length vs. sun inclination, (3) shape vs. surface geometry, (4) intensity, (5) phase shift. Measurements indicate that the spots are shadows cast by "mound-like" surface features, some of which are over 25 meters high.

Öner A. T. Ruiz J. Fairén A. G. Tejero R. Dohm J. M.

The Volume of Possible Ancient Oceanic Basins in the Northern Plains of Mars [#1319]

Here are presented more precise calculations of possible ancient oceans on Mars by using MOLA data for present-day topography. Also, Airy compensation is assumed to estimate upper limits to the effect of the water load on basins volume calculation.

Ozorovich Yu. R. Lukomsky A. K. Potemkin S. A.

MARSEES: Possibilities of Long-Term Monitoring Spatial and Temporal Variations and Changes of Subsurface Geoelectrical Section on the Base Results of the Geophysical Survey Salt/Water Interface and Groundwater Mapping on the Marina Di Ragusa, Sicily and Shalter Island, USA [#1251]

A main task of the MARSEES monitoring system is to examine changes in the subsurface properties of local areas regolith on the Martian surface on the basis of the database of various soil slices in terrestrial conditions.

Patel M. R. Towner M. C. Zarnecki J. C. Leese M. R. Davies A. Husbands A.

A Miniature UV-VIS Spectrometer for the Surface of Mars [#1247]

A miniature spectrometer is in the process of development for a future Mars mission, to measure the UV-VIS spectrum encountered at the martian surface. With an intended mass of ~100 g, the spectrometer is planned as part of the ESA ExoMars mission.

Pina P. Saraiva J. Barata T.

Automatic Recognition of Aeolian Ripples on Mars [#1621]

This paper presents a two-step algorithm to segment and recognise aeolian ripples on the surface of Mars in an automatic mode, based on mathematical morphology operators.

Reiss D. van Gasselt S. Neukum G. Jaumann R.

Absolute Dune Ages and Implications for the Time of Formation of Gullies in Nirgal Vallis, Mars [#1639]

We determined dune ages by crater size frequency distributions. Superposition relations gives us an upper limit age of the gullies in this region.

Ringrose T. J. Towner M. C. Zarnecki J. C.

Diurnal Dust Devil Behaviour for the Viking 1 Landing Site: Sols 1 to 30 [#1245]

Previous martian studies have provided an understanding of diurnal dust devil behaviour for Viking 2 and the Mars Pathfinder landing sites. It is the purpose of this work to complete this analysis by analysing the meteorological data from the Viking 1 landing site.

Salamunićcar G. Nežić Z.

Topography Based Surface Age Computations for Mars: A Step Toward the Formal Proof of Martian Ocean Recession, Timing and Probability [#1973]

Craters statistics computations for 1/32° MOLA data and two different craters data-sets where age is computed relative to the average surface age at the corresponding altitude, including relationship of approach to the past lava flows and polar caps.

Smith D. E. Zuber M. T.

Gravitational Effects of Flooding and Filling of Impact Basins on Mars [#1923]

The filling of impact craters and basins with water could affect the Mars gravity field and its rotation.

Stooke P. J.

Viking 2 Landing Site in MGS/MOC Images [#1074]

A specific bright pixel in a MOC image is suggested to be Viking Lander 2. From it a variety of features may be matched between Lander panoramas and MOC images.

Thomas P. C. Malin M. C. Edgett K. S. James P. B. Cantor B. A. Williams R.

South Polar Residual Cap of Mars: Features, Stratigraphy, and Changes [#1327]

Two Mars' years changes in the south residual cap show different units erode at different rates and some new layers probably formed after Mariner 9.