

Thursday, March 18, 2004
POSTER SESSION II: SPECIAL SESSION: MARS CLIMATE CHANGE
7:00 p.m. Fitness Center

Schneck T.

Mars South Pole CO₂ Paleoatmosphere [#1002]

Seasonal asymmetry in the CO mixing ratio is explained by condensation of CO₂. High levels of deuteration can be obtained if the gas phase is depleted of CO. UV limb measurements found intense Cameron band emissions of CO from 1900–2700 Å produced by dissociative excitation of CO₂.

Bodiselitsch B. Lammer H.

Do SNC Noble Gas and Deuterium Data Provide Evidence for Large Cometary Impact Between 1300–300 Ma on Mars? [#1231]

Martian meteorites data show a nearly stable Martian atmosphere between 3.9 and 1.3 Gyr, but markedly changes in the Ar/Kr/Xe ratios and D/H ratios between 1.3 and 0.3 Gyr. These changes could have been triggered by a cometary impact.

Head J. W. III Kreslavsky M.

Medusae Fossae Formation: Ice-rich Airborne Dust Deposited During Periods of High Obliquity? [#1635]

The characteristics of the Madusae Fossae Formation suggest that it may represent equatorial deposition of ice-rich airborne dust during extended periods of high obliquity.

Parsons R. L. Head J. W. III

Ascraeus Mons, Mars: Characterisation and Interpretation of the Fan-shaped Deposit on Its Western Flank [#1776]

Characterisation of the Ascraeus Mons fan-shaped deposit is used to assess the plausibility of a cold-based glacial origin. A critical test is how well cold-based glaciation can explain the unique aspects of the Ascraeus deposit.

Nussbaumer J. Hauber E. Jaumann R.

Evidence of Recent Glaciation in Elysium Planitia, Mars [#1244]

We present evidence for recent equatorial glaciation in southeastern Elysium Planitia. The surface features indicating glacial processes include eskers, ground moraines, and boulder trains.

Kostama V.-P. Kreslavsky M. A. Head J. W. III

Craters and Other Circular Features in the Northern Circumpolar Area, Mars [#1203]

Crater retention age of the high-latitude mantle is <1 Ma, and has strong latitudinal and regional variations. There are many pits of non-impact origin, impact craters of different degradation degree and mantled non-impact cratered cones.

Titus T. N. Cushing G. Pathare A. Christensen P. R. Byrne S. Ivanov A. B. Ingersoll A. Richardson M.

Kirk R. L. Soderblom L. A. THEMIS Team

Intra-Annual Variations of the Martian Swiss Cheese Terrain [#2005]

Much of the surface of the carbon dioxide South Polar Residual Cap of Mars consists of quasi-circular pits with steep walls that have been dubbed “Swiss Cheese” terrain. Here, we examine the intra-annual variations of the Martian Swiss Cheese terrain using both MOC and THEMIS VIS/IR imaging.

Nakamura T. Tajika E.

Drastic Climate Change of Mars Induced by H₂O Ice Caps [#1672]

We estimate the condition for H₂O ice cap formation by an energy balance climate model and investigate a relation with the runaway CO₂ condensation. We examine the possibility that the H₂O ice cap triggers the runaway condensation of CO₂.

Schmidt K. G. Buchardt S. L.

Modelling the Mass Balance of the North Polar Ice Cap on Mars [#1554]

We construct a new model for the north polar ice cap on Mars with a parametrisation for a realistic mass balance in order to calculate flow velocities for the ice cap under the assumption of steady state. We conclude that the ice cap seems to be receding at the present.