

Tuesday, March 21, 2017

[T254]

PLANETARY CRYOSPHERES AND POLAR PROCESSES II: MARS

1:30 p.m. Waterway Ballroom 6

Chairs: Isaac Smith
Solmaz Adeli

- 1:30 p.m. Weiss D. K. * Head J. W.
[History of the Martian Cryosphere: Is the Ice-Cemented Portion of the Cryosphere Groundwater-Supply-Limited?](#) [#1057]
The cryosphere may be a large portion of the water inventory on Mars. We explore whether the cryosphere is supply-limited and implications for groundwater.
- 1:45 p.m. Baker D. M. H. * Carter L. M.
[Radar Reflectors Associated with an Ice-Rich Mantle Unit in Deuteronilus Mensae, Mars](#) [#1575]
SHARAD radar observations of a thick mantle unit suggests a permittivity near 4 and average thickness of 85 m; the unit may bury glacial ice in some locations.
- 2:00 p.m. Head J. W. III *
[Late Noachian Climate of Mars: Constraints from Valley Network System Formation Times and the Intermittencies \(Episodic/Periodic and Punctuated\)](#) [#1538]
Valley network formation durations/intermittency place constraints on Late Noachian climate: Fluvial systems driven by punctuated intermittency are favored.
- 2:15 p.m. Adeli S. * Hauber E. Jaumann R. Michael G. Fawdon P.
[Well-Preserved Ice-Rich Deposits on Mars, in the Southern Midlatitude Region of Terra Cimmeria](#) [#2248]
In this study we present evidence of local well-preserved ice-rich deposits aged as late Amazonian in the southern midlatitude regions of Mars.
- 2:30 p.m. Nerozzi S. * Holt J. W.
[Newly Mapped Extent, Morphology, and Internal Stratigraphy of the Martian North Polar Cavi Unit](#) [#1722]
Dune fields and deep troughs / Radar reveals story of / Young cavi unit.
- 2:45 p.m. Lalich D. E. * Holt J. W.
[New Constraints on Dust Content in the North Polar Layered Deposits, Mars from SHARAD Reflectivity](#) [#2101]
New modeling techniques allow us to use SHARAD radar sounding data to constrain dust content within the north polar layered deposits, Mars.
- 3:00 p.m. Smith I. B. *
[Where Ice Flows on Mars; Where Ice Does Not Seem to Flow; Why the Difference?](#) [#2489]
Where ice flows on Mars / Where ice does not seem to flow / Why the difference?
- 3:15 p.m. Fastook J. L. * Head J. W.
[Carbon Dioxide Glaciers on Mars](#) [#1737]
An ice sheet model adapted for Mars and a solid CO₂ rheology provides insight into an explanation of High Latitude Glacier features formed during low-obliquity.
- 3:30 p.m. Weitz N. * Osinski G. R. Zanetti M. Fastook J. L.
[Simulating Concentric Crater Fill on Mars with an Ice Flow Model](#) [#2272]
Ice flows in craters / Dust protects it 'til today / Asymmetric'ly.

- 3:45 p.m. Denton C. A. * Head J. W.
[Arabia Terra-Meridiani Planum as Possible Glacial Loess and Outwash/Playa Plains Adjacent to Late Noachian-Early Hesperian Icy Highlands](#) [#2198]
A periglacial environment in Meridiani Planum and Arabia Terra in a cold and icy Mars produces glacially-derived loess deposits and an outwash/playa plain.
- 4:00 p.m. Stuurman C. M. * Holt J. W. Levy J. S. Petersen E. I.
[Hot Mess, Cold Glaciers: Characterizing Ridges on Martian and Terrestrial Debris-Covered Glaciers Using Observations and Flow Modelling](#) [#2740]
Flowing ice and rock / Enigmatic shapes emerge / From folds, faults, climate.
- 4:15 p.m. Sinha R. K. * Vijayan S. Bharti R. R.
[Lobate Debris Apron and Lineated Valley Fill Around Tanaica Montes, Mars: Implications for Late Amazonian Glacial Activity in the Region](#) [#1744]
Morphology, topography, and subsurface of Tanaica Montes, Mars reveals that a widespread accumulation/preservation of ice/snow occurred during the Late Amazonian.
- 4:30 p.m. Butcher F. E. G. * Gallagher C. Arnold N. S. Balme M. R. Conway S. J. et al.
[Eskers Associated with Extant Glaciers in Mid-Latitude Graben on Mars: Evidence for Geothermal Controls Upon Recent Basal Melting](#) [#1234]
Did geothermal / Heat make mid-lat glaciers / In Mars graben melt?