MARS POLAR CAPS WHERE ICE LINGERS

Monday, March 19, 2018
Montgomery Ballroom

2:30 p.m.   Montgomery Ballroom
Chairs: Wendy Calvin
          Ali Bramson

2:30 p.m. Smith I. B. *  Putzig N. E.  Holt J. W.
Revised Analysis of Buried Deep Structures in Planum Boreum with the 3-D SHARAD Volume [2206]
We use the new 3-D SHARAD dataset at the north pole of Mars to renew analysis of deep features and to
describe new features never interpreted with radar.

2:45 p.m. Whitten J. L. *  Campbell B. A.
Analysis of the Radar Properties of the South Polar Layered Deposits on Mars Using
SHARAD Data [1238]
SHARAD data are used to study the radar properties of reflectors in the South Polar Layered Deposits of
Mars and to further characterize its interior structure.

3:00 p.m. Mirino M. *  Sefton-Nash E.  Witasse O.  Frigeri A.  Holt J. W.  et al.
Multi-Instrument Data Handling for Sub-Surface Analysis on Mars [2281]
Using datasets from MRO mission, we demonstrate how joint analysis of surface and sub-surface data
can benefit geological interpretation of planetary bodies.

3:15 p.m. Bramson A. M. *  Byrne S.  Bapst J.  Smith I. B.
The Role of Sublimation in the Migration of Mars’ Spiral Polar Troughs [2611]
We model ice loss from Mars’ polar troughs over time and compare to trough migration paths in
SHARAD data to place constraints on the mass balance of the NPLD.

3:30 p.m. Nerozzi S. *  Holt J. W.
Ice Caps Under Sand Caps Under an Ice Cap: Revealing a Record of Climate Change on Mars
with SHARAD [1075]
Polar cap-ception: Ice under sand under ice / Radar reveals it.

3:45 p.m. Calvin W. M. *  Cantor B. C.  James P. B.
Mars North Polar Cap Recession and Summer Variation: Five Mars Years of
MARCI Observations [2455]
New observations of seasonal cap retreat support brightening of the residual ice due to dust lag removal.
Residual ice appearance is highly variable in each MY.

4:00 p.m. Vos E. *  Aharonson O.  Schorghofer N.
Dynamic and Isotopic Evolution of Mars Ice Reservoirs [1414]
We model the exchange of water ice among the dominant reservoirs on Mars and predict D/H layering in
the North Polar Cap measurable by future missions.

4:15 p.m. Bapst J. *  Byrne S.  Bandfield J. L.
Recent Accumulation of Water Ice at the North Pole of Mars? [2987]
Using TES data, we derive thermal properties of the north residual cap (<5 m). Our models favor a
porous ice layer ~1 m thick covering most of the residual cap.

4:30 p.m. Fusco M. S. *  Farnsworth K.  Knightly J. P.  Yazdani A.  Chevrier V.
Spatial and Geomorphological Evolution of Swiss Cheese Terrains in the Martian
South Polar Cap [2682]
Swiss Cheese Features at various latitudes and longitudes of the Martian South Polar Cap are shown to
be growing in surface area over the five martian years sampled.