

Tuesday, March 8, 2011
SPECIAL SESSION:
CRYOSPHERES III: ACTIVE ICE PROCESSES
10:15 a.m. Waterway Ballroom 1

Chairs: **Timothy Titus**
Stephen Clifford

- 10:15 a.m. Calvin W. M. * James P. B. Cantor B. A.
[Interannual and Seasonal Variability in the North Polar Region of Mars: Observations in Mars Years 29 and 30 by MARCI, CTX and CRISM](#) [#2401]
We summarize the interannual and summer variability in the bright ice deposits in the martian north polar layered deposits using MARCI, CRISM, and CTX over the course of the MRO mission.
- 10:30 a.m. Byrne S. *
[Simulating the Landscape Evolution of the Martian Residual CO₂ Ice Cap](#) [#2728]
I model the observed landscape evolution of the martian ice cap, where expanding pits were interpreted as evidence of climate change. Model results show no such change is necessary and predict an ice cap continuously being destroyed and recreated.
- 10:45 a.m. Becerra P. * Byrne S. HiRISE Team
[Modeling the Formation of CO₂ Frost Halos on the South Polar Residual Cap of Mars](#) [#2252]
We introduce a model for the formation of bright halos seen by HiRISE on the edges of scarpas and “swiss cheese” features in the south polar residual cap of Mars. We propose that they are formed from differences between the sublimation rates of sloped and flat surfaces.
- 11:00 a.m. Aye K.-M. * Pommerol A. Portyankina G. Thomas N. Hansen C. J.
[Martian South Polar Terrains in Spring: I. Multi-Instrumental Observations](#) [#2320]
Data from several instruments have been used to identify evolutionary stages in the seasonal development of large-scale surface brightnesses and small features’ shapes, sizes, and numbers in the martian south polar terrains.
- 11:15 a.m. Portyankina G. * Thomas N. Pommerol A. Aye K-M. Hansen C. J. Herkenhoff K.
[Martian South Polar Terrains in Spring: II. Modelling of Relevant Physical Processes](#) [#1709]
In this work we summarize our attempts to model various physical processes that shape the surface of southern polar terrains during local spring and are commonly accepted to be related to the sublimation of seasonal CO₂ cap.
- 11:30 a.m. Schmidt F. * Dupire R. Doute S. Portyankina G.
[Active Jets and Slab Ice in the Seasonal South Polar Cap of Mars](#) [#1942]
Unexpectedly, geomorphological analysis of 5000 images show that CO₂ jets are active outside the martian cryptic region, some without apparent spiders. Additional spectral studies will be presented to test the necessity of translucent slab ice.