Seelos F. Horgan B. Smith I. Evidence for a Lithic Unit Within the North Polar Layered Deposits [#6088]
Orbital spectra suggest that sediments on Planum Boreum are pyroxene-bearing, and the source unit for these "veneers" may be associated with a radar reflection within the PLD. A lithic unit within the PLD may have influenced their thermal stability.

Spectral variability and poorly crystalline phases in the glacial outwash plains at the Three Sisters hint at wet-based glacial alteration processes that may have been present on early Mars.

Bishop J. L. Englert P. A. J. Antarctic Dry Valley Sediments as Analogs for Sediments in the Cold Desert-Like Environment on Mars [#6011]
Sediments from the Antarctic Dry Valleys are under investigation as analogs for the cold, dry desert environment on Mars.

Carter J. Gondet B. Massé M. Vincendon M. Pilorget C. The South Polar Sulfates of Mars [#6063]
The south polar region of Mars exhibits a large ring of sulfate-bearing deposits which resembles those of the north, and may be linked to cryospheric processes.

Hanley J. Horgan B. Chlorine Salts at the Phoenix Landing Site [#6104]
Although chlorine salts (perchlorates, chlorides) are known to exist at the Phoenix landing site, their distribution and type have not been positively identified yet. We look for these salts through a novel NIR remote sensing technique.

Aftabi P. Tectonics of “Swiss Cheese” Features in Martian Polar Areas [#6002]
This paper explains categorized and mapped “Swiss cheese” features in polar areas of Mars.

Kim J.-R. Baik H. van Gasselt S. Constraints on Landscape Formation of Euripus Mons, Mars, from Topographic and Radar Data Analysis [#6068]
For selected features on Mars it has been shown by radar observations that ice content might be high. One such well-known example is Euripus Mons. We here report on our observations supporting a periglacial mass-wasting evolution.

Snowfall from CO2 ice clouds on early Mars can affect the formation of permanent polar caps. We use a GCM to study the influence of CO2 cloud microphysics on the stability of thick CO2 atmospheres against collapse into permanent polar caps.

Bhardwaj A. Martín-Torres J. Identification and Mapping of Glacier-Like Forms (GLFs) Near Martian Subpolar Latitudes [#6046]
In the present research, we have taken a classic geomorphologic approach for identifying GLFs in the subpolar martian latitudes using recent HiRISE scenes.
High-resolution images of the martian surface have revealed numerous deposits with complex patterns consistent with the flow of ice. Here we applied ice-flow models and inverse methods to estimate the ice thickness and volume of these deposits.

We use ice flow modeling to understand the process of concentric crater fill and subsequent ice flow on Mars and determine if there is potential for remnant ice buried in the subsurface. Our model recreates the measured MOLA surface elevation well.

Andrieu F. Schmidt F. Douté S. Schmitt B. Brissaud O. Radiative Transfer Model for Translucent Slab Ice on Mars [6090]
We developed a radiative transfer model that simulates in VIS/NIR the bidirectional reflectance of a contaminated slab layer of ice overlaying a granular medium, under geometrical optics conditions to study martian ices.