

Wednesday, November 1, 2017
POSTER SESSION
12:45 p.m. Great Room

Buffo J. J. Schmidt B. E.

[*Slush Fund: The Role of Small Scale Reactive Transport Processes in Europa's Ice Shell*](#) [#7004]

The role micro scale (~1 cm) physics play in governing macro scale (~1m–10km) properties and processes in oceanic ices; with application to Europa's ice shell.

Chan K. Grima C. Blankenship D. D. Young D. A. Soderlund K. M.

[*Mobilization of Near-Surface Brine on Europa*](#) [#7014]

Near-surface brine can play a significant role in the ice cycling process occurring on Europa, and may also serve as habitats for microbial life. We discuss recent hypotheses for brine mobilization at Europa and their terrestrial analog counterparts.

Pascuzzo A. C. Johnson B. C. Sheppard R. Y. Fisher E. A. Wiggins S. E.

[*Porosity and Salt Content Determine if Subduction can Occur in Europa's Ice Shell*](#) [#7006]

How feasible is subduction on Europa when ice shell porosity structure, temperature, and salt contents are taken into account?

Wong T. McKinnon W. B.

[*Lithospheric Stresses on Europa's Icy Shell: Can Subduction Initiate on Europa?*](#) [#7012]

We estimate the strength of the icy lithosphere required for subduction initiation.

Sattler-Cassara L. Lyra W.

[*Implications of Tidally Driven Convection and Lithospheric Arguments on the Topography of Europa*](#) [#7021]

We present 3D numerical simulations of tidally driven convection in Europa. By associating the resulting normal stress from plumes with surface weakening and resistance from shallower layers, we successfully reproduce domes and double ridges.

Noviello J. L. Torrano Z. A. Rhoden A. R. Manga M.

[*Microfeature Clustering on Europa: A Potential Clue to the Subsurface Structure*](#) [#7013]

Europa has lenticulae, and a model by Manga and Michaut claims they form from sills. We are testing this using a statistical approach.

Montesi L. G. J.

[*What Could be the Tectonic Expression of Water Bodies Inside and at the Base of Ice Shells or Europa?*](#) [#7009]

Water inside the ice, water below the ice, what can be seen at the surface?

Walker C. C. Craft K. L. Patterson G. W.

[*Plumbing the Depths: Water Flow Through Fractures in Europa's Subsurface*](#) [#7022]

Here we discuss the flow of water through a variety of subsurface fracture scenarios. We assess effects due to refreezing, tides, pressure, and fracture styles to constrain geometries of ocean-surface conduits and their effect on surface features.

Craft K. L. Walker C. C. Patterson G. W.

[*Subsurface Fracturing and Surface Morphology on Europa*](#) [#7018]

Analysis of Larsen C ice shelf radar data paired with finite element modeling of subsurface fractures in ice shells to enable understanding of possible surface-subsurface fluid interactions.

Kay J. P. Kattenhorn S. A. Prockter L. M.

[*Distribution of the Youngest Tectonic Features on Europa*](#) [#7024]

The search for the youngest tectonic activity starts with the geologically young, ridgeless surface fractures. The temporal relationship between these fractures and the stress states will yield information when Europa was tectonically active.

Singer K. N. McKinnon W. B. Schenk P. M.

[Two Geologic Constraints on Europa's Ice Shell Thickness and Implications for Habitability](#) [#7019]

We empirically derive ice shell thickness estimates from two types of features on Europa: 1) endogenic pits and 2) ring graben around large impact basins.

McGrath M. A. Sparks W. B.

[Update on Plumes at Europa](#) [#7007]

We will provide a summary of recent observations of active plumes on Europa.

Pappalardo R. T. Senske D. A. Korth H. Klima R. Vance S. D. Craft K.

Phillips C. B. Europa Science Team

[The Planned Europa Clipper Mission and its Role in Investigating Ice Shell Exchange Processes](#) [#7003]

The Europa Clipper Mission supports a highly capable payload of both *in situ* and remote-sensing instruments to observe Europa and its environment and investigate processes of surface-ice-ocean exchange.