A History of Pit Chain Formation Within Enceladus’ Cratered Terrains Suggests a Nonsynchronous Rotation Stress Field

The patterns of pit chains in Enceladus’ cratered terrains show systematic changes in orientation through time, consistent with nonsynchronous rotation.

Constraining the Heat Flux Between Enceladus’ Tiger Stripes: Numerical Modeling of Funisicular Plains Formation

Enceladus’ stripes are hot; the land in between? Maybe not. Forming ropy plains therein, requires litho quite thin, so the heat flux must’ve been quite a lot.

Contractional Deformation for the Formation of Dorsa on the Trailing Hemisphere of Enceladus

Cross-sectional shapes / Suggest dorsa are compressed: / Icy wrinkle ridge..

Testing the Cryovolcanic Sill Model for the Formation of Double Ridges on Jupiter’s Moon Europa

We explore whether the heat from a cryomagmatic sill can sufficiently thin the lithosphere to permit the observed flexure at some double ridges.

Subduction on Europa: The Case for Plate Tectonics in the Ice Shell

We describe previously unrecognized tabular bands on Europa along which subduction of a brittle ice layer may have occurred into the ice shell interior.

Elevation Distribution of Titan’s Mountain Ridge Belts; Implications for Tectonic Evolution

Compared the location of the ridge belts to a new global topographic map; explored the connections between elevation and tectonism — suggest contraction.

A New Global Topographic Map of Io: Implications for Global Shape and Internal Heating

Voyager and Galileo stereo DTMs are mosaicked to create a topographic map covering ~75% of Io in order to constrain the locations of global-scale undulations.

Polar Wander on GANYMEDE and CALLISTO — A Solution to the Apex-Antapex Cratering Conundrum

Repeated, early episodes of polar wander of Ganymede’s icy shell may have reduced or eliminated its otherwise predicted, large apex-antapex cratering asymmetry.

Helene: The Face that Launched a Thousand Slips

We have developed a historical working scenario for the evolution of Helene’s landscape involving both mass loss and gain, which we are currently modeling.
3:45 p.m.  Lopez Garcia E. J. * Rivera-Valentin E. G. Schenk P. M. Hammond N. P. Barr A. C.  
*Topographic Constraints on the Origin of the Equatorial Ridge on Iapetus* [#1450]  
An extensive topographic and geologic analysis of Iapetus’ equatorial ridge suggests that an exogenic  
origin may be possible.

4:00 p.m.  Rivera-Valentin E. G. * Lopez Garcia E. J. Barr A. C.  
*Geologic Constraints on Outer System Planetesimal Disk Mass from Ridge Survival on Iapetus* [#2615]  
Using recent morphological investigations of Iapetus’ ridge along with our cratering model, we  
constrain the outer system planetesimal disk mass.

4:15 p.m.  Schenk P. * Moore J. M.  
*Topography of Midsize Icy Satellites 2: Tethys and the Effects of Odysseus* [#2598]  
Tethys received a mighty whack! Odysseus made a giant crack! Watch us pick up the pieces.

4:30 p.m.  Stern S. A. * Gladstone G. R. Zangari A. Goldstein D. Fleming T.  
*Transient Atmospheres on Charon and Water-Ice Covered KBOs Resulting from Comet Impacts* [#1268]  
Charon has suffered thousands of impacts by comets; these import significant supervolatitle inventories  
that create tenuous transient atmospheres there.