

Wednesday, March 21, 2018

[W402]

TECTONICS AND INTERIOR DYNAMICS: CRUNCHY OUTSIDE, CHEWY INSIDE

8:30 a.m. Waterway Ballroom 4

Chairs: Michael Bland
Ashley Schoenfeld

- 8:30 a.m. McCarthy C. * Caswell T. Domingos A. Katz A. O. Newtown D. C. et al.
[Friction of Ice Partial Melt Systems: A Possible Source of Seismicity on Icy Satellite Faults](#) [#2419]
Results from friction experiments on ice mixtures with periodic forcing. Reduced friction and velocity weakening behavior were observed in partial melt samples.
- 8:45 a.m. Caswell T. E. * Cooper R. F.
[Enhanced Dissipation in Creeping Water Ice: New Experimental Results and Implications for Icy Worlds](#) [#1990]
New experiments measured high dissipation in creeping water ice relative to Maxwell or Andrade model predictions.
- 9:00 a.m. Kay J. P. * Schenk P. M. Dombard A. J. McKinnon W. B.
[The 3-km High Subjovian Megadome on Ganymede: Simulation of Stability via Pratt Isostasy](#) [#2212]
Voyager data / Big, crass-ass megadome / Pratt isostasy.
- 9:15 a.m. Bland M. T. * Sizemore H. G. Buczkowski D. L. Sori M. M. Raymond C. A. et al.
[Why is Ceres Lumpy? Surface Deformation Induced by Solid-State Subsurface Flow](#) [#1627]
Ceres' great tholi / Form not by volcanism / The subsurface flows.
- 9:30 a.m. Ruesch O. * Genova A. Neumann W. Zuber M. Raymond C. A. et al.
[The Cave of an Ice Dragon: Gravitational Evidence of the Subsurface Structure Beneath Ahuna Mons on Ceres](#) [#1427]
This is about how gravity data can help us understand Ceres interior and how it produced cryovolcanic domes.
- 9:45 a.m. Li B. * Zhang J. Chen J.
[Displacement-Length Ratio and Contractional Strain of Lunar Wrinkle Ridges in Mare Serenitatis and Mare Tranquillitatis](#) [#1373]
D-L ratios of wrinkle ridges in Mare Serenitatis and Mare Tranquillitatis are estimated, and then the contractional strains are estimated to be ~0.36% and 0.14%.
- 10:00 a.m. Thompson T. J. * Robinson M. S. Watters T. R.
[A Wrinkled Moon](#) [#2782]
Wrinkle ridge tectonic features display striking correlation with gravity anomalies. The pattern of wrinkle ridge orientation varies across the mare.
- 10:15 a.m. Klimczak C. * Callihan M. B. Crane K. T. Kling C. L. Byrne P. K.
[Fault Rock Evolution of Large Thrust Systems on Mars](#) [#1083]
As thrusts on Mars grow / And offset accumulates / Wear on faults makes gouge.
- 10:30 a.m. Broquet A. * Wieczorek M. A.
[Gravitational Signature of Martian Volcanoes](#) [#1859]
We model the localized spectral admittance of small martian volcanoes in order to constrain the composition and elastic state of the lithosphere.

- 10:45 a.m. O'Rourke J. G. * Shim S.-H.
[Suppressing the Martian Dynamo with Ongoing Hydrogenation of the Core by Hydrated Mantle Minerals](#) [#2390]
A Magnetic Murder Mystery on Mars! What killed the dynamo 4 billion years ago? Clues implicate Col. Ringwoodite, with the hydrogen, at the core/mantle boundary.
- 11:00 a.m. Schools J. * Montesi L. G. J.
[Convective Instability in Horizontal Decompression Channels Inside Planetary Lithospheres](#) [#2301]
Melt gets stuck going up / Lithosphere porous layer / Convection onset.
- 11:15 a.m. Guerrero J. M. * Lowman J. P. Deschamps F. Tackley P. J.
[The Influence of Curvature on Convection in a Temperature-Dependent Viscosity Fluid: Implications for the 2D and 3D Modeling of Moons](#) [#1781]
The nature of stagnant-lid convection in small moons shows a divergence in the temperature and velocity fields found for 2D and 3D spherical shell systems.
- 11:30 a.m. Thomas P. * Grott M. Pietsch D. Morschhauser A.
[Martian Paleopole Investigations Using MAVEN-MAG Data](#) [#1530]
MAVEN-MAG data was searched for additional information in comparison to MGS-MAG, to derive a more detailed view on the lithospheric magnetic field of Mars.