

**Thursday, March 22, 2018** [R614]  
**POSTER SESSION II: PLANETARY TECTONICS AND INTERIOR DYNAMICS**  
**6:00 p.m. Town Center Exhibit Area**

Schoenfeld A. M. Yin A. **POSTER LOCATION #234**  
[First Tectonic-Stress Map Across Enceladus' SPT and Possible Dynamic Causes](#) [#1577]  
 Enceladus' stress / From tidal and tectonic / Explains plume timing.

Knapmeyer-Endrun B. Ceylan S. van Driel M. InSight Science Team **POSTER LOCATION #235**  
[Martian Crustal S-Wave Velocities from P-Wave Polarization — A Test Study for InSight](#) [#2235]  
 We show inversion results of seismic P-wave polarization for crustal S-wave velocities for synthetics for six Mars models and complementary terrestrial data.

Heap M. J. Griffiths L. Farquharson J. I. Byrne P. K. Mikhail S. et al. **POSTER LOCATION #236**  
[An Experimental Setup to Measure the Elastic Wave Velocities of Frozen Rocks: Application to Mars](#) [#1314]  
 We provide elastic wave velocities of dry, wet, and frozen basalt to inform on the hydro- and cryosphere of Mars using data from the upcoming InSight mission.

Hager A. Schedl A. D. Ukiwo O. **POSTER LOCATION #237**  
[Ages of Fault Structures Adjacent and Running Subparallel to Parallel to Valles Marineris](#) [#2062]  
 By examining structures running sub-parallel to parallel to Valles Marineris (VM), we hope to learn about the initiation of VM.

Ruedas T. Breuer D. **POSTER LOCATION #238**  
[Some Effects of Multiple Large Meteorite Impacts on Mars](#) [#2166]  
 Large impacts have distinct short-term effects depending on distance in space and time, but converge towards similar long-term signatures in observables.

Grindrod P. M. Hollingsworth J. Ayoub F. Hunt S. A. **POSTER LOCATION #239**  
[The Search for Active Marsquakes Using Subpixel Coregistration and Correlation: First Results and Best Practices](#) [#1220]  
 Results of attempt to identify evidence of co-seismic deformation in Cerberus Fossae, Mars, using visible wavelength orbital images.

De K. Dasgupta D. Kundu A. Thapa J. Dasgupta N. **POSTER LOCATION #240**  
[Palaeostress Orientation and Crustal Shortening Estimation, a Case Study from the Wrinkle Ridges of Northwestern Part of Noachis Terra](#) [#1942]  
 Crustal shortening estimation and palaeostress analysis of the wrinkle ridges of the northwestern part of Noachis Terra.

van der Bogert C. H. Clark J. D. Hiesinger H. Banks M. E. Watters T. R. et al. **POSTER LOCATION #241**  
[Seismic Resetting of the Crater Record Around Lunar Lobate Scarps](#) [#1026]  
 Similar model ages from different CSFD methods indicate scarp-related seismicity reset the crater chronometer both at lunar scarps and in the nearby terrain.

Kay J. P. Kattenhorn S. A. Prockter L. M. **POSTER LOCATION #242**  
[Distribution of the Youngest Tectonic Features on Europa](#) [#2216]  
 Youthful Europa / Ignore craters and chaos / Look for long fractures.

Melton C. A. Emery J. P. Prockter L. M. Collins G. C. Patterson G. W. et al. **POSTER LOCATION #243**  
[Kinematics of Microplate Rotation on Europa: Argadnel Regio](#) [#2267]  
 The goal of this research is to investigate the mechanisms that are responsible for microplate rotation at Argadnel Regio, Europa.

Beddingfield C. B. Cartwright R. J. **POSTER LOCATION #244**

[Miranda Heat Flux Estimates for a Lithosphere with Ammonia Hydrates](#) [#2532]

We estimate the heat flux of the Arden Corona region on Miranda during fault formation, taking into account a lithosphere that includes ammonia hydrates.

Green A. P. Montesi L. G. J. Cooper C. M. **POSTER LOCATION #245**

[The Growth of Outer Satellites' Icy Shells: Convection and Crystallization](#) [#2703]

The Stefan Problem is solved in a stagnant lid convection context to provide estimates on the thickness and timing of growth of the European icy shell.

Guerrero J. M. Lowman J. P. Deschamps F. Tackley P. J. **POSTER LOCATION #246**

[The Influence of Bounding Radii in a Curved Geometry, Bi-Modally Heated Convecting Layer](#) [#2772]

Core heat flux and the transition to stagnant-lid convection are strong functions of relative core radius as well as internal heating rate.

Keszthelyi L. Bland M. Dundas C. **POSTER LOCATION #247**

[Can InSight Detect the Source Region of the Athabasca Valles Flood Lava?](#) [#1316]

There should be an appreciable seismic low velocity zone to the northeast of InSight due to a large area of partial melt near the base of the lithosphere.

Czechowski L. **POSTER LOCATION #248**

[Past, Present, and Future Tectonics of Enceladus](#) [#2006]

We follow here our previous suggestions that this mass loss is a main driving mechanism of the Enceladus tectonics.

Pou L. S. Garcia R. F. Mimoun D. Murdoch N. Karatekin O. **POSTER LOCATION #249**

[Determination of the Gravitational Potential and Tidal Stress of Asteroids Using the Finite Element Method](#) [#1434]

We present a finite element code calculating the gravity field and tidal stress of asteroids for comparison with mission data and preparing seismic experiments.

Fan B. Kite E. S. **POSTER LOCATION #250**

[Upper Limit on a Paleo-Equatorial Ridge from a Tidally-Disrupted Moon of Mars](#) [#1054]

We report our progress on a method to search for an equatorial ridge and applying it to determine the limits of detection for an equatorial ridge on Mars.

Boukaré C.-E. Parmentier E. M. Parman S. W. **POSTER LOCATION #251**

[Cumulate Mantle Dynamic Response to Magma Ocean Cooling History](#) [#2033]

We use a compaction model to investigate the effects of the magma ocean cooling rate history on the amount of retained melt in the cumulate layers.

Boujibar A. Fei Y. Righter K. Du Z. Bullock E. **POSTER LOCATION #252**

[Distribution of Alkalis \(Na, Cs, Rb\) Between Silicate and Sulfide: Implications for Planetary Volatile Depletion](#) [#2309]

Alkalis partition preferentially into O-rich sulfides. However, their distribution between core and mantle cannot explain their fractionation in Earth's mantle.

Rai V. K. Sikdar J. **POSTER LOCATION #253**

[Silicon Isotope Evidence for an Enstatite Chondritic Composition for Bulk Silicate Earth](#) [#2629]

Based on phase isotopic specific analysis of Si, this work supports enstatite chondritic Earth.

Righter K. Pando K. Ross D. K. Righter M. Lapen T. J. **POSTER LOCATION #254**

[Effect of Silicon on Activity Coefficients of P, Bi, Cd, Sn, and Ag in Liquid Fe-Si, and Implications for Core Formation](#) [#2471]

Some siderophile elements are volatile; we show that Sn, Bi, Ag, and Cd in Earth's mantle can be explained by metal-silicate equilibrium in a deep magma ocean.

Enomoto H. Iizuka T.

*POSTER LOCATION #255*

[Trace Element and W Isotope Systematics of Acid-Washed Archean Meta-Basalts](#) [#2349]

We report trace element and W isotope analyses combined with acid-leaching for early Archean meta-basalts from the Isua Supracrustal Belt.

Hu J. Y. Dauphas N. Tissot F. L. H. Yokochi R. Ireland T. J.

*POSTER LOCATION #256*

[The REE Isotopic Composition of the Earth](#) [#2968]

We present the first systematic study on MDF of seven REEs including Ce, Nd, Sm, Eu, Gd, Dy, and Yb and estimate the isotopic composition of the bulk silicate earth.