Thursday, March 22, 2018
POSTER SESSION II: ICY SATELLITES
6:00 p.m. Town Center Exhibit Area

POSTER LOCATION #651
Study of the Solar Wind Influence on the Jovian Inner Magnetosphere Using an Ionospheric Potential Solver [#2040]
We investigated the asymmetrical variation of the Io plasma torus observed by the Hisaki satellite using a 2-D Jovian ionospheric potential solver.

Michaelides R. J. Schroeder D. M.
POSTER LOCATION #652
Assessing the Ability of Radar Sounders to Discriminate Between Corner-Reflections and Point Scatterers: Application to Europa’s Chaos Terrains [#1121]
We discuss the ability of planetary radar sounders to discriminate between different scattering regimes for the detection of subsurface water on Europa.

Belgacem I. Schmidt F. Jonniaux G.
POSTER LOCATION #653
Estimation of Hapke’s Parameters on Selected Areas of Europa Using a Bayesian Approach [#1051]
In preparation for the JUICE mission (ESA), more information is needed about photometric models of the icy moons. This work focuses on Europa and Hapke’s model.

Stillman D. E. Grimm R. E. MacGregor J. A.
POSTER LOCATION #654
Chloride Salts Prevent Direct Determination of Europa’s Icy Shell Thickness via Radar Sounding [#1971]
We present an updated radar attenuation model of Europa supported by 100s of lab measurements. These show the difficulties of penetrating through warm ice.

Montesi L. G. J. Howell S. M. Pappardo R. T.
POSTER LOCATION #655
Ice Thickness, Upwelling, and Topography in Bands on Europa [#2173]
Upwelling ice in bands thins the ice shell. Topography implies that surrounding ice is denser than band material and opening rate is less than $10^{-10}$ m/s.

POSTER LOCATION #656
Tidally-Driven Seismicity: An Application to Europa [#2414]
Tides give energy / Europa quakes in response / Two processes linked.

Zolotov M. Yu.
POSTER LOCATION #657
What Affects the Oceanic Composition on Europa? [#2872]
The accreted composition of Europa strongly affected the oceanic composition. The Mg content in surface materials indicates the oxidation state of the ocean.

Allu Peddinti D. Rhoden A. R.
POSTER LOCATION #658
Time Evolution of Ice-Shell Thickness: Effect of Episodic Variations in Tidal Heating [#2565]
Geodynamical investigation into the effect of episodic variation in tidal heating within Europa’s ice-shell on the shell thickness as the ice-ocean system forms.

Hay H. C. F. C. Matsuyama I.
POSTER LOCATION #659
Icy Satellite Subsurface Oceans: Tidal Dynamics, Dissipation, and the Solid Shell [#2969]
Ice moon of giant / We model ocean sloshing / Smoke on the water?

Ligier N. Carter J. Poulet F. Snodgrass C.
POSTER LOCATION #660
Europa, a Dolphin Paradise? Update on Its Surface Properties from a Recent Near-Infrared Ground-Based Campaign with SINFONI/VLT [#2129]
This abstract deals with new near-infrared ground-based measurements of Europa. New insights into surface properties of the satellite will be presented.
How Well Do We Know Europa’s Topography? Assessing Variability in Digital Terrain Models [#2193]
On knowing topo / Science and safety depend / Europan danger.

Europa NIMS Data Reprocessing Pipeline for Detailed Surface Analysis [#1798]
Galileo NIMS / A difficult dataset / We made easier.

Milazzo M. P.  Backer J. W.  Mapel J.  Berry K.  Hansen C. J.
Ingestion, Camera Model, and Processing Software for JunoCam Images Based on USGS Astrogeology’s Integrated
Software for Imagers and Spectrometers (Version 3) [#2198]
Gorgeous Jupiter / Photographs by JunoCam / ISIS3 supports.

The Breadth and Depth of Europa Geology: Plans for Observing Diverse Landforms with Europa Clipper [#2625]
Clipper flies over / While we plan to see every / Europan landform.

Culha C.  Schroeder D.  Haynes M.
Assessing the Potential for Detecting Europa’s Eutectic Using Radar Sounding [#1295]
Assessment of the echo return at Europa’s eutectic and the implications for future missions.

Nordheim T. A.  Paranicas C.  Hand K. P.
The Near Surface Radiation Environment of Europa, Biosignature Destruction, and Implications for
In-Situ Sampling [#2856]
We have modeled the radiation environment of Europa’s near-surface and evaluated the destruction of biosignatures at
different depths and surface locations.

Girona T.  Berton M.  Karani H.  Huber C.  Head J.  et al.
On the Freezing of Water Spheres: Linking the Surface Features of Icy Moons to the Dynamics of Subsurface
Global Oceans [#1683]
We explore the generation of extensional tectonism in icy moons through experimental and numerical analyses
involving the freezing of water spheres.

Byrne P. K.  Regensburger P. V.  Klimczak C.  Bohnenstiehl D. R.  Hauck, II S. A.  et al.
The Geology of the Rocky Bodies Inside Enceladus, Europa, Titan, and Ganymede [#2905]
Icy moons are intriguing, no doubt: Hot ice, oceans, and stuff that blows out. But what lies below? Just rock or
Cthulhu? With rock mechanics we can find out.

Byers G.  Miller J. E.
Examining Potential Evidence of Warmer Ice on Leading Hemispheres by Examining Surface Features on Icy Moons
of Jupiter and Saturn [#1716]
We are looking for evidence of factors which make leading hemispheres of icy moons more active, and possibly
thinner, above their subsurface oceans.

Mellon M. T.  Zanko D. J.  Horst S. M.
Thermal Conductivity of Water-Ice Regolith and Application to the Outer Solar System [#2395]
We simulate and examine water-ice regolith (appropriate to outer-solar-system bodies) and measure its
thermal conductivity.
Thermal Conductivity and Specific Heat Measurements of Hydrated Salt Mixtures with Implications for Icy Satellites

Thermal conductivity and specific heat are key parts in geophysical modeling of planetary objects, thus we have performed these measurements on hydrated salts.

Geothermal Energy in Planetary Icy Large Objects via Cosmic Rays Muon-Catalyzed Fusion

We propose that cosmic rays muons might add energy via catalyzed fusion to the interior of icy large objects of the solar system, interesting to astrobiology.