Tuesday, March 21, 2017
POSTER SESSION I: ICE BREAKERS: SATELLITES OF THE OUTER SOLAR SYSTEM
6:00 p.m. Town Center Exhibit Area

Singh V.  Rhoden A.  Sato H.  
POSTER LOCATION #126
Application of a Revised Hapke Model for Characterizing the Physical Properties of Icy Regoliths [#2960]
Icy moons shine bright / But properties are unknown / Our Moon will lead us.

Caswell T. E.  Cooper R. F.  
POSTER LOCATION #127
Grain Size Evolution in Icy Satellites: New Experimental Constraints [#2000]
Grain size sensitive? / Water ice grain size doesn’t change / Matters to icy worlds.

Goldby D. L.  Qi C.  Werts T. A.  Durham W. B.  et al.  
POSTER LOCATION #128
The Influence of Particles on the Rheological Behavior of Ice [#2923]
The influence of embedded particles on the rheological behavior of polycrystalline ice is explored in laboratory deformation experiments.

Méndez A. S. J.  Prieto-Ballesteros O.  
POSTER LOCATION #129
Phase Equilibria of MgSO4-CO2-H2O System Up to 2 GPa. Implications on Large Icy Moons [#2720]
The MgSO4-CO2-H2O system represents the Galilean icy moons’ chemistry. CO2 clathrates in their subsurface oceans may have the starring role on its geochemistry.

Neto-Lima J.  Prieto-Ballesteros O.  Fernandez-Sampedro M.  
POSTER LOCATION #130
Olivine Aqueous Alteration Under Low Temperature Conditions in the Presence of Ammonia — A Case for the Icy Moons [#2530]
Results from experiments in which hortonolite is reacted with anoxic basic carbonate solution and ammonia in the presence of catalyst awaruite at 363,15K.

Dubois D.  Patthoff D. A.  Pappalardo R. T.  
POSTER LOCATION #131
Diurnal, Nonsynchronous Rotation and Obliquity Tidal Effects on Triton Using a Viscoelastic Model: SatStressGUI Implications for Ridge and Cycloid Formation [#2897]
Modeling tidal stresses on Neptune’s biggest moon Triton, using combined diurnal, nonsynchronous rotation, and obliquity-induced tides.

Bland M. T.  Wyrick D. Y.  
POSTER LOCATION #132
Simulating the Formation of Ganymede’s Grooved Terrain in Three Dimensions: Numerical Approach and Preliminary Results [#2461]
J3’s grooved terrain / Simulations in 3D / Preliminary!

Wyrick D. Y.  Bland M. T.  Patterson R.  
POSTER LOCATION #133
Physical Analog Models of Ganymede’s Grooved Terrain [#2345]
Analog models / Of Ganymede’s grooved terrain / Provide cool insights.

Giese B.  Hauber E.  Hussmann H.  
POSTER LOCATION #134
On the Formation of Caldera-Like Features on Ganymede: Implications from Galileo-G28 Images [#2474]
Using topographic data, we find that diapirism is a viable explanation for the formation of caldera-like features on Ganymede.

Weller M. B.  Fuchs L.  Becker T. W.  Soderlund K. M.  
POSTER LOCATION #135
Convection and Dichotomies Within Enceladus’ Ice Shell: Effects of Variable Surface Temperatures [#1676]
Solar forsworn poles / Equator, embracing warmth / Dichotomy found.

Craft K. L.  Roberts J.  Stickle A.  
POSTER LOCATION #136
Fracture and Flow, Possible Post-Impact Activity on Enceladus [#2848]
South polar fractures, interact? / Open and close? / Post impact result?
The Initiation and Persistence of Cracks in Enceladus’ Ice Shell

We model crack formation, then use a suite of end-member models for the dissipation of energy to explore the persistence of the cracks at Enceladus’ south pole.

A First Order Mechanical Analysis of the Stress Regime Driving Tectonic Activity in the South Pole of Saturn’s Moon Enceladus

At Enceladus, we see in the south pole stressed out fractures.

Ice Sintering Timescales at the Surface of Europa and Implications for Surface Strength

Ice sintering at Europa affects the strength and density of surface regolith, which has important implications for preparing for future in-situ exploration.

Subsumption on Europa’s Icy Surface: A Physical Analogue Modeling Approach

Europa’s ice young / Perhaps subsumption at work? / We shall test with wax.

Preliminary Results from Simulations Mapping Mobile Lid Convection in Icy Shells

We present initial work on the viability of plate tectonics occurring on Europa applying the criteria outlined in prior studies on Earth, but scaled to Europa.

An Analysis of Plate Motions on Europa Associated with the Formation of Astypalaea and Libya Lineae

Plate motions of Astypalaea and Libya Lineae indicate a broad agreement with prior studies, and suggest limited amounts of convergence, on the scale of 2–4 km.

Multi-Stage Reconstruction of Plate Motions South of Castalia Macula, Europa

Floating ice plates drift / Far from their former neighbors / Which ones collided?

Possible Nature and Detectability of Endogenic Thermal Anomalies on Europa

Thermal anomalies on Europa may provide a detectable signature of endogenic activity and resurfacing processes, which could be detectable by E-THEMIS.

Updating the Global Geologic Map of Europa

Mapping features on / Europa’s complex surface / Ends with many lines.

Geomorphology of Impact Features on Tethys Using High Resolution Mosaics

Small impacts abound! / Source? Trojan moon impacts or other / Tethys maps will help solve.

The Apex-Antapex Cratering Asymmetry on Jovian Satellites: Implications from Ray Craters on Callisto and Ganymede

We obtain the distribution of ray craters on Callisto and Ganymede, and discuss the implications for the impactor sources of jovian satellites.
Are the Linear Virgae of the Saturnian System Similar to Catenae of the Galilean System? [2884]
Linear virgae near Saturn / How do they form? / Does Jupiter know?

Impact Craters and the Structure of Europa’s Ice Shell [1277]
Numerical modeling of impact craters on Europa to probe the structure of Europa’s ice shell.

Samarkand Sulci, Enceladus: Topography and Geology from the Data of the Cassini 228EN Non-Targeted Flyby in Global Context [2262]
In this paper we present the stratigraphy and ages of the Samarkand Sulci region on Enceladus, imaged by the Cassini ISS camera in non-targeted flyby 228EN.

Penitent Ice on Europa? Laboratory Testing of Cryogenic Ices Related to Icy Moon Surfaces [2581]
Penitent spires / Does Europa hide such ice? / We have built a test.

High Spatial and Spectral Resolution Near-Infrared Mapping of Ganymede and Callisto with ESO/VLT/SINFONI [2211]
Presentation of new high spatial and high spectral resolution data of Ganymede and Callisto acquired with the instrument ground-based SINFONI of the VLT.

Spectral Similarities Between Jupiter Irregular Satellite Himalia and Main Belt C-Type Asteroids [2162]
The NIR spectrum of Himalia is comparable to (52) Europa and (24) Themis and falls in between the spectrum of (52) Europa and (24) Themis.

Hemispherical Asymmetries in Spectral Reddening on the Classical Uranian Satellites: Evidence of Intraplanetary Dust Bombardment [2630]
We are investigating the origin of spectrally red, possibly C-rich, dark material on the uranian moons by constraining the distribution of this constituent.

Far Ultraviolet Spectroscopy of Saturn’s Moon Rhea [1215]
The research presented in this poster paper summarizes preliminary results of a geochemical survey of Saturn’s moon Rhea using Cassini UVIS spectral data.

Spectral Analysis of Enceladus, Dione, and Rhea’ Surfaces: Water Ice and Sub-Micron Particles Distribution [1284]
We have analyzed and mapped the distribution of water ice and sub-micron particles across the surface of Saturn’s moons Enceladus, Dione, and Rhea.

Mapping the Spectral Diversity of Enceladus South Pole with Cassini/VIMS Hyperspectral Images [1382]
We present global maps of spectral heterogeneities on Enceladus south pole, that we have computed using the complete VIMS data archive.

Resolving the Mass Production and Surface Structure of the Enceladus Dust Plume [2904]
CDA and ISS data are used in conjunction with plume simulations to resolve the Enceladus plume mass production, emission structure, and surface deposition.
**POSTER LOCATION #159**

*The Composition of the Mass 28u Constituent of the Enceladus Plume* [1230]

Cassini INMS data analysis of Enceladus plume with modeling to reveal differences in spatial structure by mass.

**POSTER LOCATION #160**

*3-Micron Band Properties of Enceladus' Plume Particles: Temporal Variations and Their Characterization* [1633]

Tiny ice particles / Holding secrets to what lies beneath Enceladus / Decoding diffracted light / To reveal the truth.

**POSTER LOCATION #161**

*Spectral and Photometric Indicators of Active Plume Deposits on Europa* [1594]

Photometric and spectroscopic indicators can potentially provide an efficient way to search for recent and ongoing activity on Europa.

**POSTER LOCATION #162**

*Colors of Enceladus: Plume Redeposition and Lessons for Europa* [2601]

I wonder if the snow loves the craters and cracks, that it kisses them so gently? Perhaps it says, “Go to sleep, darlings, till the plumes erupt again.”

**POSTER LOCATION #163**

*Investigating Europa’s Plasma Environment from Radar Sounding* [2816]

REASON onboard Europa Clipper will characterize the ionosphere and plume-induced plasma clouds from the ionosphere radar signal distortion.