

Monday, June 16, 2014
POSTER SESSION: MODELING, SIMULATION AND TESTING
6:30 p.m. Dabney

Pauken M. T. Fernandez C. J. Jeter S. M.

[*Expendable Cooling for a One-Day Venus Lander*](#) [#8012]

A thermal architecture of a Venus lander mission using an expendable coolant system has been developed to enable a day-long surface mission. The system uses an aqua-ammonia mixture to provide cooling of the electronics and the pressure vessel.

Perino S. V. Bayandor J.

[*A Structural Concept Study for Future Planetary Probes and Sample Return Vehicles*](#) [#8059]

Atmospheric entry vehicle concepts for future planetary probes and sample return vehicles were parametrically investigated. Key aspects of the analysis methodology and important discoveries about the AEV design and tradespace are discussed.

Allen G. A. Jr. Marley M. A. Agrawal P.

[*Uranus Atmospheric Model for Engineering Application*](#) [#8023]

The poster/paper describes an atmospheric model for the planet Uranus constructed from published data based upon the Voyager-2 flyby of Uranus in 24 January 1986. This new model is designed for use in atmospheric probe trajectory simulation.

Pinaud G. Barcena J. Bouilly J.-M. Leroy V. Fischer Wpp. Massuti T.

[*HYDRA: Macroscopic 3D Approach of Light Weight Ablator*](#) [#8002]

The HYDRA project is an European funded program that aims at developing novel solution in term of TPS associated to a demonstration of Technology Readiness Level (TRL) 4. We describe modelling activities (radiation/ablation) compared to plasma test.

Ramirez F. M.

[*Position Analysis of a Pico-Satellite for Optimum Solar Illumination*](#) [#8098]

This study characterizes the attitude of a satellite in order to obtain the optimum solar illumination on the face of a solar panel. While taking into consideration times of eclipse, a curve for the area exposed to the sun is derived.

Trifoni E. Cinquegrana D. Purpura C.

[*SCIROCCO PWT Test and CFD Rebuilding for RASTAS SPEAR Project*](#) [#8090]

A test was performed at SCIROCCO Plasma Wind Tunnel in the frame of RASTAS SPEAR project to assess the behavior under representative super-orbital re-entry conditions of adhesives for joining and bonding ASTERM, the carbon-phenolic ablative material.

Arthur D. Senatore C. Iagnemma K. Andrade J. Anderson R. C.

[*Fundamental Characterisation of Planetary Surface Material in Microgravity Environments*](#) [#8111]

We present the aspect of xTerramechanics concerned with design of experimental hardware and protocols for characterization of granular planetary surface material, and early testing aboard the Zero Gravity Corporation hyperbolic research flight.

Gasch M. J.

[*Thermal Testing of Planetary Probe Thermal Protection System Materials in Extreme Entry Environments*](#) [#8062]

The present talk provides an overview of recent updates to NASA's IHF and AEDC's H3 high temperature arcjet test facilities that to enable higher heatflux (>2000 W/cm²) and high pressure (>5 atm) testing of TPS.

Taylor J. Sorgenfrei M. C. Teanby N.

[*Characterization of a Mounting Tripod for the Mars InSight Seismometer Payload*](#) [#8036]

This work discusses the development of an experimental testbed and corresponding simulation to study the design of the mounting tripod for the seismic experiment for interior structure payload of the Mars InSight mission.