Monday, March 23, 2009

SPECIAL SESSION: VENUS ATMOSPHERE: VENUS EXPRESS AND FUTURE MISSIONS
2:30 p.m. Waterway Ballroom 6

Chairs: Kevin Baines
Jorn Helbert

Venus Express: Atmospheric Loss and Electrodynamics [#1408]
The solar wind interaction with Venus is eroding the Venus atmosphere in several different ways so that Venus is losing about $10^{25}$ ions per second. The Venus atmosphere is a strong generator of electromagnetic signals expected from lightning.

3:00 p.m. Piccioni G. * Drossart P.  VIRTIS-Venus Express Team
A Review of the Main Results about Venus' Atmosphere from VIRTIS on Venus Express [#2569]
A review of results about the Venus atmosphere achieved by the VIRTIS instrument on board the ESA Venus Express mission. The VIRTIS imaging spectrometer in the range of 0.25 to 5 µm provide a powerful means to study Venus in depth from the surface up to the upper atmosphere.

3:30 p.m. Migliorini A. * Grassi D.  Piccioni G.  Drossart P.  Cardesin-Moinelo A.  VIRTIS-Venus Express Team
Thermal Structure in the Venusian Atmosphere: Results after More than Two Years in Orbit of Venus-Express Mission [#1937]
Atmospheric structure of Venus in the southern hemisphere, retrieved from the data of VIRTIS instrument on board of Venus Express mission is discussed. The results are compared with the findings from previous missions about the northern hemisphere.

3:45 p.m. Limaye S. S. *
Vortex Circulation of Venus [#2564]
Venus Express mission is providing us with new insights into the vortex circulation of the atmosphere of Venus. First discovered from the Mariner 10 observations, the vortex circulation centered over each pole shows many similarities with terrestrial tropical cyclones.

4:00 p.m. Yung Y. L. * Yang D.  Lee C.  Liang M. C.  Chen P.
The Sulfur Cycle on Venus: New Insights from Venus Express [#2559]
Sulfur chemistry is critical to the composition of the Venus atmosphere.

4:15 p.m. Grinspoon D. H. * Taylor F. W.
Evolution of Climate on Venus: Knowledge, Uncertainty and Prospects [#1375]
A summary of recent progress in understanding climate evolution on Venus with an emphasis on Venus Express results.

4:30 p.m. Helbert J. * Müller N.  Maturilli A.  Piccioni G.  Drossart P.
The Long and Hot Way from Brightness Anomalies to Compositional Information — High Temperature Laboratory Spectroscopy for VIRTIS on Venus Express [#1678]
To support the analysis of VIRTIS on VEX surface data the PEL will provide a database of emissivity spectra in the 1–1.2 micron range at Venus temperatures.

4:45 p.m. Stofan E. R. * Smrekar S. E.  Helbert J.  Martin P.  Mueller N.
Coronae and Large Volcanoes on Venus with Unusual Emissivity Signatures in VIRTIS-Venus Express Data [#1033]
Recent Visual and Infrared Thermal Imaging Spectrometer (VIRTIS) images from the Venus Express mission found emissivity variations that correlate with some volcanic edifices and coronae, including Shiwanokia and Shulamite Coronae in Themis Regio.
High-altitude balloon missions to Venus address numerous high-priority science issues including origin/evolution, chemical cycles, and the roles of waves, convection, and cloud-level solar energy deposition in driving circulation and super-rotation.

The Venus STDT has defined the goals, objectives, mission architecture, science investigations and payload for a Flagship-class mission to Venus. The mission puts advanced exploration capabilities in orbit, in the atmosphere, and on the surface.