Thursday, March 22, 2012
POSTER SESSION II: MARS ATMOSPHERE
6:00 p.m. Town Center Exhibit Area

Lognonne P. Spiga A. Hurst K. Gabsi T. Banfield D. de Raucourt S. Mimoun D. Banerdt W. B. Hecht M.
Martian Atmospheric Induced Micro-Seismic Noise Generation: Large Eddy Simulations **[#1994]**
The surface of planets with an atmosphere or ocean has continuous vibrations generated by the fluid envelop circulations and turbulences, generating a microseismic noise. This is estimated for Mars by modeling the interaction of large eddies.

Madeleine J.-B. Head J. W. Spiga A. Dickson J. L. Forget F.
A Study of Ice Accumulation and Stability in Martian Craters Under past Orbital Conditions Using the LMD Mesoscale Model **[#1664]**
The goal of this study is to better understand the climate conditions under which ice-related features present in impact craters formed, using geological observations and mesoscale climate simulations of the corresponding regions.

Soto A. Mischna M. A. Richardson M. I.
Climate Dynamics of Atmospheric Collapse on Ancient Mars **[#2783]**
Using a general circulation model (GCM), we investigate the details of the three-dimensional, time varying climate dynamics at the threshold for atmospheric collapse.

Chaffin M. S. Chaufray J. Y. Schneider N. M. Stewart I.
Mars Express Measurements of Water Loss from Mars **[#2282]**
Mars Express Observations of hydrogen Lyman α are used to infer an escape rate of hydrogen, with implications for the time-integrated loss of water from the surface of Mars and the evolution of the martian climate.

Teodoro L. F. A. Elphic R. C. Hollingsworth J. I. Haberle R. M. Kahre M. A. Eke V. R. Roush T. Marzo G. A. Brown A. J. Feldman W. C. Maurice S.
Constraining the Mars General Circulation Model with Realistic Distributions of Polar Ice **[#2617]**
We constrain the Mars General Circulation Model with realistic distributions of polar ice drawn from the most recent MONS. We apply an image reconstruction algorithm to the epithermal neutron data with the aim of improving its spatial resolution.

Chevrier V. F. Rivera-Valentin E. G.
Regolith Control of Atmospheric Water Vapor on Mars from Analysis of the Phoenix TECP Data **[#2370]**
Numerical modeling of mass and heat transfer in the martian regolith and analysis of the humidity and temperature data returned by the TECP onboard Phoenix show that the regolith probably controls the diurnal cycle through diffusion and adsorption.

Dickinson C. S. Komguem L. Whiteway J. A.
Clouds and Precipitation at the Phoenix Mars Lander Site **[#1916]**
Observations of clouds within the planetary boundary layer on Mars was made using the lidar on the Phoenix mission. A regular Sol-to-Sol pattern of cloud formation was observed to occur each night and completely dissipate before midday.

Sefton-Nash E. Teanby N. A. Calcutt S. B. Hurley J. Irwin P. G. J.
Detection and Mapping of Ice Clouds in Mars' Mesosphere **[#1817]**
We map ice cloud occurrence in Mars' mesosphere using > 2 Mars years worth of limb spectra acquired by the Mars Climate Sounder. We find two distinct seasonal regimes with short periods/latitudes of increased formation and limited longitudinal bias.

Santiago D. L. Colaprete A. Kreslavsky M. Kahre M. A. Asphaug E.
Cloud Formation and Water Transport on Mars After Major Outflow Events **[#2438]**
The triggering of a robust water cycle on Mars might have been caused by the gigantic flooding events evidenced by outflow channels. We use the Ames Mars General Circulation Model (MGCM) to test this hypothesis.

Barth E. L. Farrell W. M. Rafkin S. C. R.
Modeling Electric Field Generation in Martian Dust Devils **[#2794]**
We have added triboelectric dust charging physics to the Mars Regional Atmospheric Modeling System (MRAMS) in order to simulate the electrodynamics of dust devils and dust disturbances on Mars.

Baragiola R. A. Dukes C. A.
Ozone Production by Colliding Dust in the Martian Atmosphere **[#2471]**
Laboratory studies show that ozone is produced by electrical discharges when rocks fracture. We propose that a similar process should occur in the collision of dust particles during dust storms in Mars and discuss implications.