MARS ATMOSPHERE:  THAT WAS THEN, THIS IS NOW
2:30 p.m.   Waterway Ballroom 4

Chairs:   Robin Wordsworth
          Robert Lillis

Monday, March 20, 2017

2:30 p.m.   Jakosky B. M. *   MAVEN Science Team
MAVEN Observations of Mars Atmospheric Loss and Implications for Long-Term Evolution [#1114]
MAVEN completed one Mars year of observations, determining atmospheric loss to space that spans all Mars seasons and includes effects of solar storms.

3:00 p.m.   Lillis R. J. *   Deighan J.   Fox J. L.   Bouger S. W.   Lee Y.   et al.
Photochemical Escape of Oxygen from Mars:  Consequences for Climate History [#1793]
Photochemical oxygen escape rates from Mars are derived from MAVEN in situ data. Extrapolating back in time, several hundred millibars likely escaped this way.

3:15 p.m.   Kite E. S. *   Mischna M.   Gao P.   Yung Y.
Climate Optimum on Mars Initiated by Atmospheric Collapse? [#1747]
Mars’ first-ever atmospheric collapse shifts H₂O-ice from high ground to poles, releasing CH₄ from sub-ice clathrate. We explore the consequences for Tsurf.

3:30 p.m.   Wordsworth R. *   Kalugina Y.   Lokshtanov S.   Vigasin A.   Ehlmann B.   et al.
Transient Reducing Atmospheres on Early Mars as a Solution to the Faint Young Sun Paradox [#2092]
New spectroscopic and climate calculations demonstrate methane and hydrogen could have warmed early Mars far more strongly than previously believed.

3:45 p.m.   Palumbo A. M. *   Head J. W.   Wordsworth R. D.
Late Noachian Icy Highlands Climate Model:  Exploring the Possibility of Transient Melting and Fluvial/Lacustrine Activity Through Peak Annual/Seasonal Temperatures [#2107]
We consider a cold and icy early Mars and ask:  Is formation of the valley networks and lakes possible from punctuated heating and associated melting and runoff?

4:00 p.m.   Kloos J. L. *   Moores J. E.
Inter-Annual and Diurnal Variability in Clouds Observed from MSL Over Two Martian Years [#1250]
Inter-annual and diurnal variability of equatorial martian clouds is assessed using cloud imaging observations from the MSL mission over two martian years.

4:15 p.m.   Fischer E. *   Martinez G. M.   Renno N. O.
Recalibration and Analysis of the Phoenix Relative Humidity Sensor Data [#2761]
Here, we show initial results of our recalibration of the Phoenix Thermal and Electrical Conductivity Probe to produce high-level relative humidity data.

4:30 p.m.   Williamson H. N. *   Elrod M. K.   Johnson R. E.
A Correlation Between Martian Exospheric Structure and the Solar Wind Interaction Region [#2254]
NGIMS data from a full martian year suggests precipitating heavy ions can affect neutral densities.