

Monday, November 10, 2008

MARS ATMOSPHERE GENERAL CIRCULATION AND CLIMATE: OBSERVATIONS
8:30 – 10:30 a.m.

Chair: F. Forget

Levine J. S. Forget F.
Opening Remarks

McCleese D. J. * Schofield J. T. Aharonson O. Abdu W. A. Bandfield J. L. Banfield D. Calcutt S. B. Heavens N. G. Irwin P. G. J. Kass D. M. Kleinboehl A. Lawson W. G. Leovy C. B. Lewis S. R. Paige D. A. Read P. L. Richardson M. I. Taylor F. W. Teanby N. Zurek R. W. **(Invited, 20 minutes)**
[Observations of the Martian Atmosphere with the Mars Climate Sounder](#) [#9037]

This paper describes the Mars Climate Sounder (MCS) investigation and introduces observations acquired in one full year of operation. MCS continues to acquire high vertical resolution profiles of temperature, dust, condensates of CO₂ and H₂O, and water vapor.

Kleinböhl A. * Schofield J. T. Kass D. M. Abdou W. A. McCleese D. J.
[One Mars Year of Atmospheric Temperature, Dust, and Water Ice Profiles Retrieved from Mars Climate Sounder Measurements](#) [#9086]

We present profiles of temperature, dust opacity, and water ice opacity retrieved from Mars Climate Sounder measurements covering one Mars year.

Kass D. M. * Kleinböhl A. Schofield J. T. McCleese D. J. Mischna M. A. MCS Team
[MCS Views of the Northern Polar Atmosphere During Phoenix Approach](#) [#9072]

MCS observed the northern polar atmosphere during late northern spring to assist in the Phoenix landing. This work concentrates on the temperature structure and maps of dust opacity. These show a number of interesting features related to the regional circulation.

Hinson D. * Wang H.
[Baroclinic Eddies and Dust Storms During Autumn of MY 27](#) [#9019]

We are using a combination of radio occultation data and wide-angle images obtained with Mars Global Surveyor in MY 27 to investigate martian meteorology, including baroclinic eddies and frontal/flushing dust storms.

Giuranna M. * Formisano V. Montabone L. Rinaldi G.
[Observations of the Mars Polar Vortex with the Mars Express Planetary Fourier Spectrometer](#) [#9128]

The Mars Express (MEX) Planetary Fourier Spectrometer (PFS) data set provides several martian years of consistently sampled, vertically resolved temperature measurements, we take a detailed look at the different aspects and behaviours exhibited by the Mars polar vortex.

Hayward R. K. * Fenton L. K. Tanaka K. L. Titus T. N. Colaprete A. Christensen P. R.
[Aeolian Features as Ground Truth for Atmospheric Modeling on Mars](#) [#9033]

Dunes provide a global-scale record of surface/atmosphere interaction. We consider four dune characteristics as possible records of “ground truth” and compare them to General Circulation Model (GCM) output.

Sonnabend G. * Sornig M. Kroetz P. J. Stupar D. Montabone L. Fast K. Schieder R.
[Mars Mesospheric Winds Around Northern Spring Equinox from High Resolution Infrared Spectroscopy](#) [#9055]

We present observations of mesospheric winds on Mars around northern Spring Equinox. Observations were carried out during three seasons (L_s=335, 357, 040) using the Cologne Tuneable Heterodyne Infrared Spectrometer.

Sornig M. Sonnabend G. Kroetz P. J. Stupar D. Schieder R. **(1-minute poster summary)**

[*Potential of High Resolution Mid-Infrared Heterodyne Spectroscopy to Study the Martian Atmosphere*](#) [#9050]

Infrared heterodyne spectroscopy at spectral resolutions of $> 10^5$ allows retrieval of many physical parameters from fully resolved individual lines. The Cologne THIS and its specific application to the atmosphere of Mars will be presented.

Banfield D. Kleinbohl A. Schofield J. T. Kass D. M. McCleese D. J.

MCS Team **(1-minute poster summary)**

[*Traveling and Forced Waves from MRO MCS*](#) [#9063]

We are characterizing the seasonal behavior of the forced and traveling waves in the martian atmosphere as seen from MRO MCS. This work is very complementary to previous work with MGS TES nadir temperature retrievals.

Mischna M. A. Kass D. M. Friedson A. J. Schofield J. T. Kleinböhl A. Zurek R. W. Tamppari L. K.

Formisano V. PFS Team MCS Team **(1-minute poster summary)**

[*An Intercomparison of PFS and MCS Temperature Profiles in Support of Mars Phoenix EDL*](#) [#9091]

Both the MCS and PFS-LW instruments were used for characterizing the martian atmosphere over the Phoenix landing site in April/May 2008. We present results from that study, highlighting attempts to resolve differences in profiles obtained from each instrument.

10:30 – 11:00 a.m.

BREAK