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The Martian Neutral Atmosphere from the Radio Science Experiment MaRS on Mars Express

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The Radio Science Experiment MaRS on Mars Express is sounding the Martian atmosphere and ionosphere using the spacecraft radio signals at X-band and S-band in Earth occultation geometry in a two way radio link mode. Vertical profiles of pressure, temperature and density of the neutral atmosphere can be derived from the surface up to an altitude of about 50 km at a vertical resolution of only a few hundred metres.

The elliptical orbit of Mars Express allows to investigate a large range of local times and locations and can therefore be used to study latitudinal, diurnal and seasonal variations.

The data set retrieved since March 2004 is quite complementary to the Mars Global Surveyor profiles with regard to the local times and the geographical distribution of the measurements.

This presentation will compare the latest results from the northern hemisphere taken in 2007 with former MaRS results, model data and data from other Mars missions.