

Thermal structure of the Martian atmosphere: seasonal, local time and spatial variation from the PFS/Mars Express data

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Planetary Fourier spectrometer is working on orbit around Mars for more than one Martian year. Several hundreds of spectra were obtained for different seasons, locations and local times. Vertical temperature profiles from the surface up to 55 km and aerosol opacity in the Martian atmosphere are retrieved from a single spectrum in a self consistent way. During nadir mode of observation the temperature fields in coordinates latitude-altitude along meridian are obtained for wide range of latitudes practically at the same local time. PFS data together with other available measurements for this interval of altitudes are used for construction of experimental model of thermal structure of Martian atmosphere depending on season and local time.