



Monitoring CO in Martian atmosphere with PFS-MEX data

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In this work we present the monitoring of the CO abundance and its variations in the Martian atmosphere as retrieved from the data of Planetary Fourier Spectrometer (PFS) on board of ESA Mars Express (MeX) satellite. For this purpose we have considered the CO band in the spectral range centred around 2150 cm⁻¹, in the PFS short wavelength channel, modelled using a line-by-line radiative transfer code to simulate the observed Martian spectra, taking into account both the reflected solar flux and the thermal radiation emitted by the surface and the atmosphere. The preliminary results show an almost constant abundance around 1000 ppm in the latitude range (-30°, +30°), with an observed trend of mixing ratio to decrease in the proximity of the polar regions. Peculiar behaviours have also been observed above some volcanoes and we found a spatially periodic trend in the mixing ratio along some orbits. Possible reasons for these peculiarities as well as interpretative ambiguities are also discussed.