



Trace Gas Retrievals for the ExoMars Trace Gas Orbiter (TGO) Atmospheric Chemistry Suite (ACS) mid-infrared channel during the first year of operation.

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The ExoMars Trace Gas Orbiter began science operations in April 2018. We report on data processing and analysis for the Atmospheric Chemistry Suite mid-infrared channel (ACS MIR) for the first year of operations. ACS MIR is a cross-dispersion spectrometer operating in solar occultation mode. Level 0 data (raw detector images) are processed at the Space Research Institute in Moscow (IKI) and spectral and wavenumber calibration are performed at LATMOS in Paris to produce a level 1 data product of transmission spectra. Trace gas retrievals are performed at LATMOS with the JPL Gas Fitting software (GFIT). We present retrievals of volume mixing ratio (VMR) vertical profiles of major gas species (CO, H₂O, HDO) and the current state of our search for undetected gases (e.g., hydrocarbons, sulphur and chlorine bearing species). Preliminary results show a dependence on latitude for CO above 50 km, a correlation between water vapour content and dust loading, and low upper limits for CH₄.