

The Fourth National Mars Science Seminar

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The science of ExoMars 2016 mission

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[POSTER]

The European-Russian ExoMars Trace Gas Orbiter (TGO) has been in scientific orbit since 2018. This orbiter consists of four scientific instruments: ACS (Atmospheric Chemistry Suite), CaSSIS (Colour and Stereo Surface Imaging System), FREND (Fine Resolution Epithermal Neutron Detector) and NOMAD (Nadir and Occultation for Mars Discovery). The main scientific goals of TGO are detection and characterization of trace gases, searching for their sources and sinks, as well as studying their seasonal and spatial variations. It also image and characterize surface of the Mars. These images may be useful in characterizing sources and sinks of certain atmospheric trace gases. One of the most interesting subjects of investigation is the appearance and disappearance of methane (CH₄) on short timescales. The study of the possible trace gases sources/sinks and their transport in the atmosphere is one of the objectives of our research. This leads to develop the Martian atmosphere model, with the production and the transport of major as minor species of the atmosphere.



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