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Trace gas measurements from infrared satellite for chemistry and climate applications

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Abstract. Space-borne thermal infrared instruments working in the nadir geometry are providing spectroscopic measurements of species that impact on the chemical composition of the atmosphere and on the climate forcing: H₂O, CO₂, N₂O, CH₄, CFCs, O₃, and CO. The atmospheric abundances obtained from the analysis of IMG/ADEOS measurements are discussed in order to demonstrate the potential scientific return to be expected from future missions using advanced infrared nadir sounders. Some strengths and limitations of passive infrared remote sensing from space are illustrated.

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