



Atmospheric Remote-Sensing Reference Data from GOME-2: Temperature-Dependent Absorption Cross-Sections of Ozone in the 240 - 795 nm Range

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The GOME-2 satellite spectrometer series consists of 3 flight models and is designed to record spectra of trace gases in the atmosphere and to derive a detailed picture of their atmospheric content and profile.

During the development of the GOME-1 satellite spectrometer, a recommendation was made by the GOME Science Advisory Group (GSAG)/Characterisation and Calibration Sub-group, that the temperature dependent trace gas absorption spectra should be measured under representative in-flight conditions with the GOME Flight Model.

For these measurements the spectroscopy team of the Institute of Environmental Physics developed a mobile absorption spectroscopy set-up called CATGAS (Calibration Apparatus for Trace Gas Absorption Spectroscopy) dedicatedly designed for this purpose.

ESA and EUMETSAT decided to use CATGAS for absorption measurements of O₃ with the GOME-2 FM's. In the past 2 years the CATGAS team performed 3 campaigns with two FM's (FM2, FM3, FM2-1), resulting in 3 data sets of temperature-dependent absorption spectra in the above mentioned wavelength range.

The absorption spectra are important as reference data for atmospheric remote-sensing of O₃ and other trace gases.

After a brief description of the set-up the achieved spectra will be presented, together with a comparison to literature data.