



First results on the O₃ - CO₂ isotope exchange from a diode laser spectrometer for the investigation of ¹⁷O and ¹⁸O containing ozone isotopomers

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We describe a high-resolution tuneable diode laser absorption spectrometer (TDLAS) in the 10 μm range, that allows for the simultaneous detection and quantification of the naturally occurring ozone isotopomers: ¹⁶O¹⁶O¹⁶O, ¹⁶O¹⁶O¹⁸O, ¹⁶O¹⁸O¹⁶O, ¹⁶O¹⁶O¹⁷O and ¹⁶O¹⁷O¹⁶O. Ozone samples prepared from natural oxygen can be analysed with an estimated accuracy of 5 permil, which is verified by comparison with mass spectrometer measurements. Preliminary results on the investigation of the heavy isotope transfer from ozone to carbon dioxide are presented.