



On the potential of space based and ground based FTS measurements for remote sensing of atmospheric CO₂ isotopologues

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Carbon dioxide is the most important anthropogenic greenhouse gas. Its global increasing concentration in the Earth's atmosphere is the main driver for global warming. However, in spite of its importance, there are still large uncertainties on the global carbon cycle. Satellite measurements are currently approaching the quality needed to further reduce existing surface net flux uncertainties. Simultaneous measurements of the isotopologues fractions of CO₂ cloud give additional information on the gross fluxes and additional insight in the processes of the carbon cycle. We will discuss the potential of space based and ground based FTS measurements in the short wave infrared region for remote sensing of column average fractions of the isotopologues ¹⁶O¹³C¹⁶O and ¹⁶O¹²C¹⁸O.