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Ground based remote sensing of CO2 and CH4 using a low resolution FTS

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Throughout the last years the solar absorption spectrometry has been further developed to measure CO2 and CH4 with sufficient precision. The observations are performed in the near infrared spectral region using the high resolution Bruker 120 HR or 125 HR interferometers. However, these instruments are quite large and need a dedicated container or room for installation. We now performed these observations using an interferometer with a much smaller resolution of 0.15 cm-1. This resolution is comparable to what is used by the dedicated CO2 satellites GOSAT and OCO. The measurements have been performed in Bremen and compared to our observations using a high resolution instrument. The observations have been performed for several months under different meteorological conditions. The results for the low resolution measurements will be discussed in detail with regard to stability, precision, and comparability to the high resolution measurements.