



## **Ground-based CO observations at the Jungfrauoch: Comparison between FTIR and NDIR measurements**

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Measurements of CO have been performed at the Swiss Alpine Jungfrauoch station (46.5° N, 8.0° E, 3580m a.s.l.) on a regular basis since the mid-1980's, using Fourier Transform Infrared solar absorption spectrometry (FTIR), and since 1996 using an in situ Nondispersive Infrared technique (NDIR). While the in situ measurements detect local CO concentrations at the site, the FTIR technique provides integrated measurements along the line-of-sight. Nevertheless, the pressure broadening of the spectral absorption lines recorded at high resolution enables retrieving information on the vertical distribution of CO, mainly in the troposphere, including its concentration near the surface. Considering the inherent capabilities of the two independent measurement techniques, substantial differences between both data sets for surface level CO could potentially arise.

Here we present a comparison of both data sets for the 1997 -2004 time period. Both data sets have been analysed by using successive Kolmogorov-Zurbenko filters. It appears that the long-term trend over the given time period is significantly different for both datasets. Possible causes for this difference will be critically discussed.