Seminar on Physics and Chemistry
of the Atmosphere
15.05.2020, SoSe 2020, IUP Bremen

xCO_2 retrieval in the 47800 cm^{-1} region

Rafaella Chiarella
(IUP)

Abstract

Carbon Dioxide (CO_2) is the most important anthropocentric greenhouse gas because of the big contribution to the changes in atmospheric concentrations. Atmospheric concentration measurements are key to feed inverse models to infer geographical distribution of sources and sinks. CO_2 column derived from ground base so FTIR-spectrometer nowadays has a precision better than 0.25% [Wunch et.al, 2011]. The Total Carbon Column Observing Network (TCCON) started its operation in 2004 while high resolution NDACC spectra are available since the early 1990s. However, the NDACC retrieval doesn't include CO_2 . We found important to make efforts to use the available data from the NDACC spectra to retrieve CO_2 . This work focused in finding a method to retrieve CO_2 from NDACC measurements, because of the different geographical coverage. For this presentation the results of the retrieval that is being work on using the new GGGNext retrieval package.