

Current Status of COCCON (COllaborative Carbon Column Observing Network)

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Atmospheric increases in CO₂ and CH₄ due to anthropogenic emissions are the dominant factor in global warming. Reliable ground-based measurements of these greenhouse gases (GHGs) are of utmost importance for the validation of space borne GHG observations. Therefore, the COllaborative Carbon Column Observing Network (COCCON) was initiated by KIT in cooperation with ESA. The instrumental standard of the network is the portable FTIR spectrometer EM27/SUN. COCCON supplements the coverage of the existing Total Carbon Column Observing Network (TCCON) built on far more demanding spectrometers in terms of logistics. In addition, campaign applications of several portable spectrometers in variable configurations are possible. COCCON defines common network standards for instrumental calibration and quality. Consistent data processing is guaranteed by the open-source code PROFFAST and the wrapper PROFFASTpylot provided by KIT via the COCCON web portal and a GIT repository. At this point, we present the status of COCCON with exemplary scientific results.

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