

## ICOS-ATC Lab Test for GHG Instrumentation: Presentation and First Results

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The Integrated Carbon Observation System (ICOS) European research infrastructure is dedicated to long-term quantification of the greenhouse gas (GHG) balance of Europe via a harmonized network of atmospheric, ecosystem and ocean observation sites. To ensure long-term high precision monitoring of GHG, a strategy of standardized instrumentation and methods has been defined. Also, the need to be up-to-date with new GHG instrumentation has been identified as a key point for the future ICOS atmospheric network. In this context, a test laboratory will be part of the ICOS Atmospheric Thematic Center (ATC) to: 1) interact with research institutes and private companies for evaluation of new sensors and prototypes, 2) perform and document tests of new sensors and 3) provide recommendations for the update and the evolution of the running ICOS Atmospheric Station. In the current preparatory phase, we defined the needs of the test lab in terms of instrumentation and methodology to fulfill the objectives. A first standardized test protocol has been established and a dozen instruments for atmospheric CO<sub>2</sub>, CH<sub>4</sub>, CO and N<sub>2</sub>O analysis have been evaluated. We present in this poster the methodology used with some of the key results of the test lab.

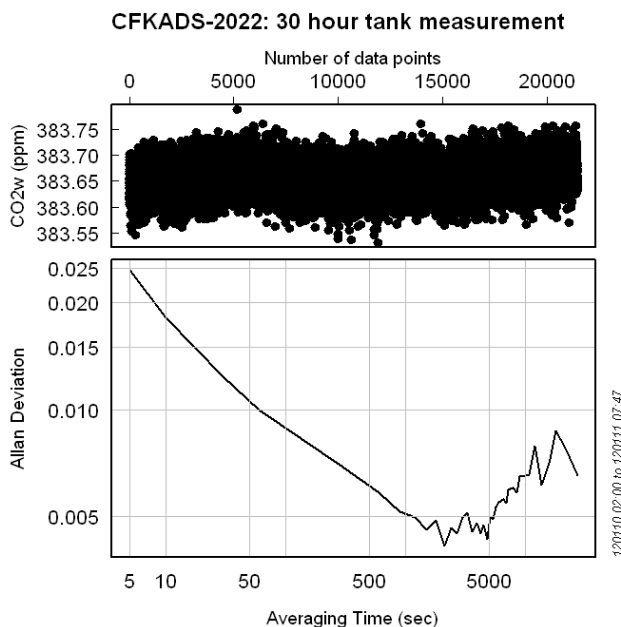


Figure 1. Picarro G2401: CO<sub>2</sub> precision assesment.

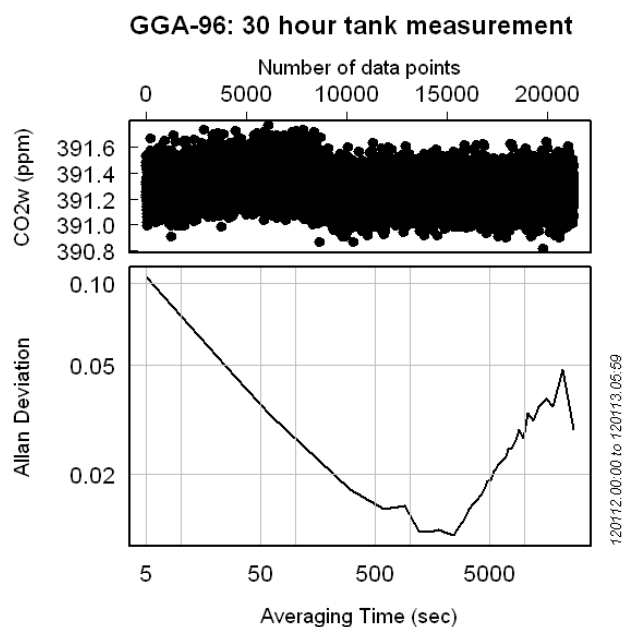


Figure 2. LGR GGA: CO<sub>2</sub> precision assesment.