WP JR1 Task 13.3: To evaluate the benefits of new optical analyzers

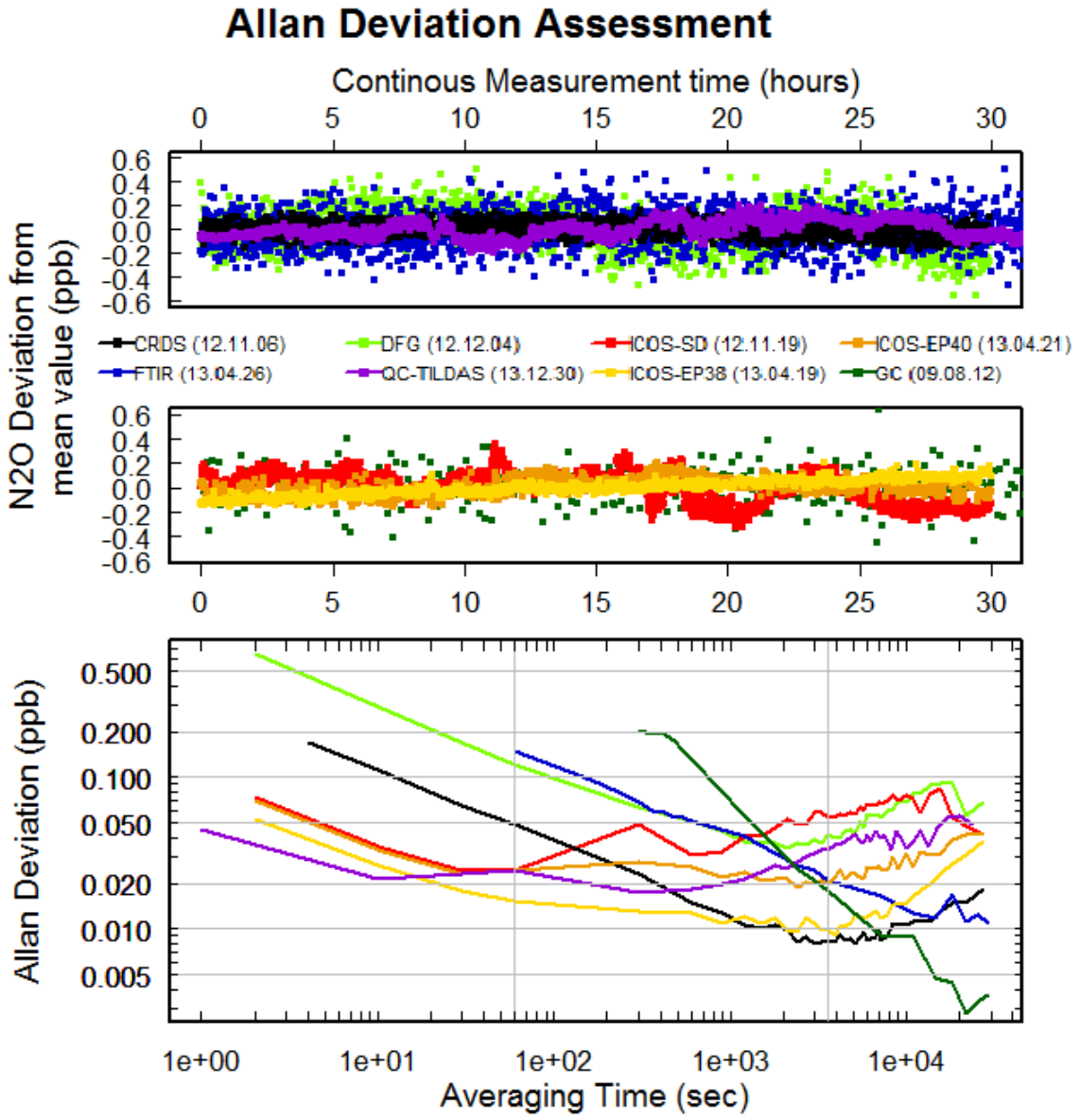
led by CEA (Martina Schmidt, Benoit Wastine)
contributors: UHEI, VUA, ECN

Task 13.3

- ICOS recommend only for instruments for CO2, CH4 and CO, as concentrations of these gases are core parameters for the ICOS atmospheric stations.
- Newly announced optical instruments, like a CRDS CO/N2O analyzer and a photo-acoustic N2O sensor, are very promising developments.
- Need to be tested for use within ICOS, both for concentration and flux measurements.
- Several other manufacturers have or will soon introduce new optical analyzers that will have to be tested for their performance in measurements of CH4, N2O and possibly other trace and GHGs.

Results

Instrument	Test period	Company
FTIR	Oct 2012 – Jan 2014	Ecotec
CRDS	Nov 2012 – Dec 2012	Picarro
DFG	Nov 2012 – Dec 2012	Thermo
ICOS-SD	Nov 2012 – Dec 2012	LGR
ICOS-EP38	May 2013 – Jun 2013	LGR
ICOS- EP40	May 2013 – Jun 2013	LGR
QC-TILDAS	Dec 2013 – Jan 2014	Aerodyne



- seven analyzers from five different companies and compared the results GC + FTIR
- instruments were characterized during a eight weeks.
- short-term and long-term repeatability,
- drift, temperature dependence,
- linearity and sensitivity to water vapor
- ambient air compared under field conditions at the Gif-sur-Yvette station.

Deliverable

D13.9) Report on the performance of new optical system for concentration and flux measurements: Report on the data available as PDF on the web site. [month 44]

Deliverable

D13.9) Report on the performance of new optical system for concentration and flux measurements: Report on the data available as PDF on the web site. [month 44]

Le 09/09/2015 15:06, editorial@copernicus.org a écrit :
Dear B. Lebegue,

Thank you very much for registering a manuscript for publication in Atmospheric Measurement Techniques (AMT).

Title: Comparison of nitrous oxide (N2O) analyzers for high-precision measurements of atmospheric mole fractions.

Author(s): B. Lebegue, M. Schmidt, M. Ramonet, B. Wastine, C. Yver-Kwok, O. Laurent, S. Belviso, A. Guemri, C. Philippon, J. Smith, S. Conil, H. J. Jost, and C. W. Rella
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