Geophysical Research Abstracts
Vol. 13, EGU2011-13211, 2011
EGU General Assembly 2011


# A New Calibration Method for the HALOX In-Situ ClO Dimer Measurement

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HALOX is an in-situ instrument to measure ClO, ClO dimer, and BrO by the technique of thermal dissociation (of the dimer) followed by chemical conversion and resonance fluorescence (CCRF) detection of the halogen atoms. The instrument was installed onboard the high-flying research aircraft M55 Geophysica during the RECONCILE Arctic campaign in early 2010 and has provided data on 12 out of 13 flights.

In order to calibrate the efficiency of the heater element to thermally dissociate the ClO dimer a new technique has been worked out based on pre-synthesized ClOOCl that is mixed into a flow of pre-cooled air or nitrogen into a fast flow experiment and then detected downstream by the HALOX CCRF system. This technique avoids high concentrations of ozone or $Cl_2O$ which are otherwise needed to generate the dimer online in the flow system. Thereby the system is much better confined chemically and provides a more accurate calibration.

Details of the experimental setup and the procedure will be presented on the poster and the impact on the quality of the aquired ClO dimer data and their potential to better confine the atmospheric $ClO_x$ partitioning will be discussed.