



NO- and NO_y measurements during CARIBIC

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Nitrogen oxides act as the dominant catalyst for the photochemical production of ozone around the tropopause. NO and NO_y measurement contribute to the identification of specific sources determining the trace gas budget around the tropopause as: air traffic, deep convection and lightning. Hence, they are important for atmospheric chemistry and climate.

A fully automatically controlled NO and NO_y measurement system was developed for the CARIBIC (Civil aircraft for the regular investigation on the atmosphere based on an instrumented container) aircraft container. First NO and NO_y measurements were performed in 2002 from a LTU Boeing 767.

Due to decommissioning of the LTU aircraft Lufthansa was chosen as new carrier for the CARIBIC container. The measurements with the CARIBIC container have been commenced in December 2004. It is intended to use the Lufthansa Airbus for about 10 years for regular measurements. On December 13 the maiden flight from Germany to Argentina was performed with an Airbus A340. The NO- and NO_y-measuring system performed as expected. A wide range of NO and NO_y volume mixing ratios was observed with NO levels between a few tenth and several hundred parts per trillion and volume and NO_y levels ranging between about 100 and several thousands parts per trillion and volume.

In this paper first results of the measurements of NO and NO_y during CARIBIC-2 at the UTLS will be presented and discussed.