



An overview on the TACTS mission using the new German research aircraft HALO in summer 2012

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The TACTS (Transport and Composition in the UTLS) mission is the first large atmospheric mission of the new German research aircraft HALO. TACTS aims at improving our understanding of the transport processes which determine the chemical composition in the UTLS with a special emphasis on the transition from summer to fall. The mission was flown in August and September 2012 with a fully equipped aircraft carrying 13 different instruments measuring a wide range of chemical tracers with different lifetimes and different source-sink characteristics. The payload consists of both in-situ and remote sensing instruments. In addition to TACTS the same payload was employed to measure the chemical composition during a large north-south transect as part of the ESMVal project. Data are available up to to altitudes above 15 km, potential temperatures above 400 K and covering the latitude range from 65°S to 80°N. Due to the large payload a very wide range of measurements allows for a very good characterisation of the chemical composition. All instruments performed well and close to complete data sets are available for all flights performed during both missions. We present an overview of the scientific aims of TACTS, the payload, the measurements performed and some selected first results.