Mission Scientist Report (by Andreas Dörnbrack)

Non-IOP flight in coordination with the NSF/NCAR GV flight RF20 on July 10 during ongoing IOP #10.

**Mission Date:** 10 July 2014

Takeoff Time RF-F06: 0331 UTC (1531 NZST)

Landing Time RF-F06: 0553 UTC (1753 NZST)

**Science Staff:** Fernando Chouza-Keil, Theresa Klausner

**DLR Staff:** Philipp Weber, Roland Welser, Alexander Wolf

**Objective:** The only objective was to perform an instrument inter comparison with the NSF/NCAR GV for several altitudes.

**Track design:** The flight track is summarized in Fig. 1.
Fig. 1: Flight track of the intercomparison flights RF-F06 and RF20.

**Instrument problems:** No instrument problems.
Conditions:

Fig. 2: IR satellite imagery during the inter comparison flight valid at 10 July 2014 03 and 06 UTC.

Fig. 2: Synoptic conditions during the inter comparison flight valid at 10 July 2014 03 UTC (ECMWF highres IFS forecast).
**Results:** The flight was executed as planned.

Fig. 7: Flights track and altitudes of the DLR Falcon during intercomparison flight.

Fig. 8: Horizontal and vertical wind components along the flight tracks. The gaps in the w-wind are altitude changes and separate the four constant level legs.
Fig. 9: First preliminary comparison of the water vapor measurements during the intercomparison flights RF-F06 and RF20.