

Interactive comment on “The SCOUT-O3 Darwin Aircraft Campaign: rationale and meteorology” by D. Brunner et al.

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The SCOUT-O3 Darwin Aircraft campaign has been a large effort for studying troposphere-to-stratosphere transport, deep convection and dehydration/hydration processes in the convectively active region of Northern Australia during the pre-monsoon spring season. The campaign was quite complex involving two SCOUT-O3 aircraft, the Russian M-55 Geophysica high-altitude aircraft and the DLR Falcon in combination with the Egrett and Dornier aircraft of the ACTIVE campaign carried out during the same period, as well as the many meteorological observations of the TWP-ICE project. Altogether the above campaigns resulted in the collection of a large number of measurements in a variety of meteorological conditions, which need to be put in perspective for an optimum analysis of the data.

The goal of this paper, part of a special issue dedicated to the publication of the results of several recent tropical experiments is to provide all participants to the Darwin campaign with the full information regarding the flights strategy of the SCOUT-O3 aircraft deployment and the meteorology prevailing during the campaign.

Comments Though there are no specific scientific results in this paper, it is thought that it will be an extremely useful paper for the authors as well as the readers of the many other anticipated papers dedicated to the analysis of the measurements of the campaign. Asides from the description of the rationale and the meteorology of each flight, a particularly useful part is the description of the large-scale meteorological context which helps understanding the similarities and differences encountered by SCOUT-O3 compared to previous campaigns in the same area, particularly the measurements made by the NASA-ER2 aircraft during the STEP project in 1987.

The paper full of relevant information is very carefully written. All affirmations are supported by adequate figures.

The recommendation of the reviewer is thus to publish it as is.

The suggestion I have to the authors for being complete is the addition in their discussion of a possible hydration mechanism in their introduction of two references besides Kley et al, 1992, Chaboureau et al 2007 and Corti et al, 2008, that of:

Kelly, et al., JGR, 98(D5), 8713-8723, 1993 and Nielsen et al., ACP 7, 685-695, 2007, who are both reporting overshooting particles above the tropopause, the first during STEP precisely over Hector near Darwin and the second in Brazil during Hibiscus.

Interactive comment on Atmos. Chem. Phys. Discuss., 8, 17131, 2008.

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