Geophysical Research Abstracts, Vol. 8, 04821, 2006
SRef-ID: 1607-7962/gra/EGU06-A-04821

The stratospheric situation and balloon flight planning during the ENVISAT validation campaign in the tropics

K. Grunow (1), U. Langematz (1), K. Pfeilsticker (2)

(1) Institut für Meteorologie, Freie Universität Berlin, Germany, (2) Institut für Umweltphysik, Universität Heidelberg, Germany
(email: katja.grunow@.met.fu-berlin.de, fax: +49 30 838 71 785)

The first tropical balloon measurement campaign for the validation of the ENVISAT atmospheric chemistry instruments (GOMOS, MIPAS, SCIAMACHY) took place in June 2005 in Teresina (Northeastern Brazil).

The validation of the ENVISAT instruments by balloon-borne measurements requires a good temporal and spatial coincidence between both measurements. A trajectory model developed by the Freie Universität Berlin allows the calculation of forward and backward trajectories to identify air masses probed by the ENVISAT instruments as well as by the balloon-borne instruments. The trajectory tool can be used to optimize the go/no go decision on balloon flights and to verify the forecasts by postflight calculations. For the first time, it was applied for a tropical satellite validation campaign, where the ENVISAT overpasses are coarser than at high and middle latitudes.

The synoptic situation in the stratosphere during the campaign period will be discussed with special emphasis on the wind regime. The method to identify the best co-located measurements will be described and examples for SCIAMACHY Limb observations will be shown.