



Water vapour and ozone as an indicator of dynamical processes in the tropical UTLS

V. Yushkov (1), A. Lukyanov (1), N. Sitnikov (1), R. MacKenzie (2), F. Ravegnani (3), A. Karpechko (4)

(1) Central Aerological Observatory, Dolgoprudny, Russia, (2) University of Lancaster, UK, (3) Institute of Atmospheric Science and Climate, Italy, (4) Arctic Research Center, Sodankyla, Finland (Vladimir@caomsk.mipt.ru / Fax: +7 495 5763327 / Phone: +7 495 4086150)

Some results of two tropical campaigns with high altitude aircraft M-55 'Geophysica' conducted in Darwin, Australia during November 2005 under SCOUT-O3 Project and in Ougadougou, Burkina Faso, Africa during August 2006 under AMMA Project have been considered and analyzed. The cold point, lapse rate tropopause, hygropause, ozonepause and its height levels have been considered. The cases of the observed supersaturation are discussed. The trajectory model coupled with cirrus parameterization scheme was used for studies of water vapour transformation inside the air parcel arriving to the location of observations. The difference between reconstructed and observed values during SCOUT-O3 campaign can be partly attributed to the warm bias of ECMWF temperatures in tropical region of observations.