



## **Preliminary comparison of the ozone vertical profiles from the Dobson Umkehr measurements and the ECC soundings with the EOS-MLS (on the Aura spacecraft) overpasses, 2004-2005.**

**B. Rajewska-Więch, J.W. Krzyścin**

Institute of Geophysics PAS, Warsaw, Poland, (bonia@igf.edu.pl)

The ozone vertical profiles derived from the Umkehr observations by the Dobson spectrophotometer at Belsk and from the ozonesoundings carried out at the nearest aerological station Legionowo have been compared with those measured by the MLS instrument on board of the Aura spacecraft during the sites overpasses for the period 2004-2005. It is assumed that the satellite-station distance should be less than 2 degree and 4 degree for the latitudinal and longitudinal difference, respectively. The bias, RMS error, and the correlation coefficients between the ozone content in the Umkehr layers (from the second Umkehr layer, 250-125 hPa, up to the ninth layer, 1.95-0.98 hPa) have been calculated using Dobson/sonde/MLS data. Ozone mixing ratio at selected levels in the lower and mid stratosphere (from 215 hPa up to 6.8 hPa) have been compared using the sonde/MLS data. The number of analyzed daily values was  $\sim 40$  (Dobson/MLS), 60 (sonde/MLS) and 60 (Dobson/sonde) since August 13, 2004. The comparisons shows a good correspondence (bias  $\sim \pm 5\%$ , RMS  $< 10\%$ , correlation coefficient  $> 0.5$ ) between the ozone content in the Umkehr layers 4-8 and ozone mixing ratio at pressures  $< 50$  hPa. At lower stratosphere (Umkehr layer 3) and upper stratosphere (Umkehr Layer 9) there is also statistically significant relationship between the data but the biases and RMS are  $\sim 2$  times larger.