

Ozone-sonde background current correction in De Bilt

M.A.F. Allaart and A.J.M. Piters

Royal Netherlands Meteorological Institute (KNMI), R&D Satellite Observations, De Bilt, Netherlands (allaart@knmi.nl)

From De Bilt in the Netherlands (52N, 5E), more than 1000 successful ozone sondes have been launched from 1994 up to now. For all flights Electrochemical Concentration Cell (ECC) ozone sondes have been used. In this cell, an electrical current is produced that is roughly linear with the concentration of ozone in the atmosphere. Before launch, the ozone sensor's background current is measured, using ambient air and an ozone destruction filter. The measured ozone profile should be corrected in some way for this background current. The record shows that the measured background current is decreasing over time, a phenomenon that is not unique to this station. It requires however careful examination, as a wrong correction for the background-current may lead to a false trend in the amount of ozone. We will present a statistical analysis of the effectiveness of the ozone destruction filter. We will use the correlation between the background current and the measured amount of ozone, to come to a correction for the ozone profile.