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UV measurements on the Atlantic Ocean and in the Antarctica

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During the cruise (8.10-16.11.2003) from Gdynia to Henryk Arctowski Polish Antarctic Station, organized by the Department of Antarctic Biology, Polish Academy of Science, UV measurements have been performed. The SL 501 UV-Biometer from the Centre of Aerology, IMWM measured the erythemal radiation. On the Antarctic Station the UV-Biometer worked since 20.11.2003 to 10.02.2004.

The Henryk Arctowski Station (62º10' S, 58º28' W) is situated on the coast of the Admiralty Bay jutting out into the land, ie. King George Island one of the South Shetland Islands.

Data from the Atlantic cruise have been analysed in respect of the relationship between UV-B radiation, latitude and solar zenith angle. The daily doses of UV-B radiation from UV-Biometer have been compared with the daily doses from Total Ozone Mapping Spectrometer (TOMS).

For Antarctic station (December 2003 and January 2004) data, the average and maximum diurnal cycles have been analyzed and compared with UV data from Leba station in Poland. Maximum UV-B radiation value on the Antarctic station was close to 3.5 MED/h, while maximum value at Leba station (54.8º N, 17.5º E), was hardly 2.5 MED/h., though lower latitude.

One of the biggest total ozone holes was observed over Antarctica in September 2003. Henryk Arctowski Station was within the range of this ozone hole. The high UV-B

radiation values recorded on the station in December 2003 and January 2004 resulted from small ozone content in the declining ozone hole.