QOS2016-249, 2016
Quadrennial Ozone Symposium of the International Ozone Commission


# Antarctic UV measurements since 2000

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UV measurements have been performed with the NILU-UV radiometer at the station of Ushuaia (54°S), Marambio (64°S) and Belgrano II (77°S) during 2000 - 2012. In this study, the UV-B -, UV-A - and erythemally weighted UV dose rate time series of the NILU-UV network are studied. The influence of the Antarctic stratospheric ozone loss on surface UV radiation is quantified at the stations of Ushuaia and Marambio, where the years of severe ozone depletion are clearly seen.

The network was established in 1999/2000 by the Spanish Agencia Estatal de Meteorología (AEMET) in collaboration with the Finnish Meteorological Institute (FMI), the Argentinian Dirección Nacional del Antártico - Instituto Antártico Argentino (DNA-IAA) and Centro Austral de Investigaciones Cientificas (CADIC). The location of the network was chosen in order to monitor total ozone and UV radiation at different sides of the polar vortex: Belgrano II is mostly located inside the vortex, Marambio at various times inside, on the edge of, or outside the vortex, while Ushuaia is mostly outside the vortex. At present, the instruments of this network have come to the end of their operational life span and need to be replaced by new ones. A multi-filter UV-instrument GUV-2511 from Biospherical Instruments Inc. will be set up in the Antarctic station of Marambio in 2016, in order to continue and upgrade the previous UV time series. UV measurements from the FMI broadband radiometer, SL501A, in Marambio, can be used to fill the gap in the time series for the period 2012 – 2016.

As part of the QA of the network, a traveling reference instrument has transferred the irradiance scale from the Arctic site of Sodankylä, Finland, to the Antarctic sites, which makes the measurements of both hemispheres comparable with each other. In this study, the first results of the comparison between the new GUV instrument and the Brewer UV measurements made in Sodankylä will be shown.