

MEASUREMENTS OF SOLAR UV AT GROUND LEVEL, TOTAL OZONE COLUMN AND TROPOSPHERIC CARBON DIOXIDE CONCENTRATION IN THE ANTARCTIC REGION

C. Rafanelli¹, I. Di Menno¹, A. Damiani¹, E. Bebedetti¹, L. Ciattaglia¹, M. Di Menno¹, G. Mariutti², A. Polichetti², R. Pozzi², J. Araujo³, H. Ochoa³, O. Rodriguez³

¹*CNR - Inst. of Atmospheric Sciences and Climate, Rome, Italy*, ²*Department of Technology and Health, National Institute of Health, Rome, Italy*, ³*Dirección Nacional del Antártico, Buenos Aires, Argentina*

In the Antarctic region, our group is carrying out measurements of several environmental parameters like the total ozone column trend, the tropospheric CO₂ concentration and the UV radiant exposures received by workers during their outdoor activities.

The monitoring activity of UV and ozone, carried out by Brewer spectrophotometer, takes place in two stations: Belgrano II (lat 77° 52' S, long 34° 38' W, Antarctica) since 1992 and Ushuaia (lat 54° 49' S, long 68° 37' W, Tierra del Fuego - Argentina) since 1994. In Jubany (lat 62° 14' S, long 58° 40' W, Antarctica) the CO₂ monitoring is performed since 1994.

The paper shows the analysis of reliability of the Brewer data. Moreover, the ozone trends connected with strong Solar events are presented.

Results are presented of the application of personal dosimeters in UV biologically effective dose evaluation for the purposes of health protection.

Finally a section is dedicated to tropospheric CO₂ data sampled in Jubany base.