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# Climatology of Ultra Violet (UV) irradiance as measured through the Belgian ground-based monitoring network during the time period of 1995-2014

Praveen Pandey, Didier Gillotay, and Cedric Depiesse
Royal Belgian Institute for Space Aeronomy (BIRA-IASB), Brussels, Belgium (praveen.pandey@aeronomie.be)

In this study we describe the network of ground-based ultraviolet (UV) radiation monitoring stations in Belgium. The evolution of the entire network, together with the details of measuring instruments is given. The observed cumulative irradiances -UVB, UVA and total solar irradiance (TSI)- over the course of measurement for three stations -a northern (Ostende), central (Uccle) and a southern (Redu)- are shown. The longest series of measurement shown in this study is at Uccle, Brussels, from 1995 till 2014. Thus, the variation of the UV index (UVI), together with the variation of irradiances during summer and winter months at Uccle are shown as a part of this climatological study. The trend of UVB irradiance over the above mentioned three stations is shown. This UVB trend is studied in conjunction with the long-term satellite-based total column ozone value over Belgium, which shows two distinct trends marked by a change point. The total column ozone trend following the change point is positive. It is also seen that the UVB trend is positive for the urban/sub-urban sites: Uccle and Redu. Whereas the UVB trend at Ostende, which is a coastal site, is not positive. A possible explanation of this relation between total column ozone and UVB trend could be associated with aerosols, which is shown in this paper by means of a radiative transfer model based study -as a part of a preliminary investigation. It is seen that the UVI is influenced by the type of aerosols.