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Vertical ozone distribution features in the atmosphere over midlatitude Kyiv-Goloseyev station

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Vertical ozone profiles in atmosphere over mid-latitude Kyiv-Goloseyev station STN498 have been obtained since spring 2010. Ozone profiles have been retrieved from the Dobson spectrophotometer observations using WOUDC software based on the Dobson Umkehr algorithm (http://www.woudc.org/). Calculations were made in assumption that the Earth's atmosphere is divided into 10 homogeneous layers. The WINDOBSON software developed by Japan Meteorological Agency was applied for Umkehr ozone profile retrievals as well. The Umkehr ozone profiles are compared with satellite GOME-2 observations for the same region. The results of stratospheric ozone vertical distribution during almost three years of Umkehr observations using Dobson D040 spectrophotometer are discussed. The seasonal ozone profile variation features are considered. The strong variability of the ozone maximum altitude was observed in spring time. The double peaked ozone profiles in spring were observed. Seasonal variations could be explained by annual cycles in tropopause vertical location, as well in planetary wave activity and intensity of large-scale Brewer-Dobson circulation.

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