



Total ozone and ozone profile observations by SAOZ, Brewer and ozonesondes in Russia

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Daily total ozone measurements are carried out in Kislovodsk, Obninsk, European Russia, and in Tomsk, Central Siberia, using the Brewer MKII №043, Brewer MKII №044 and Brewer MKIV №049 spectrophotometers. The accuracy of routine total ozone observation at direct sun measurement is 2-3%. Under cloudless conditions at air mass factor less than 4, the accuracy of total ozone direct sun measurements approaches 1%. The SAOZ (Système d'Analyse par Observation Zenitale) is UV-visible (300-650 nm) diode array spectrometer developed at the Service d'Aéronomie, CNRS, France for monitoring stratospheric ozone and NO₂. Zenith sky measurements of atmospheric gases at twilight ($86^\circ < \text{solar zenith angle} < 91^\circ$) are used. There are 15 SAOZ instruments in the SAOZ network around the world. Two instruments are located at the Arctic Circle in Russia at Zhigansk since 1992 and Salekhard since 1998. The accuracy of total ozone measurement is 6% and 10% for nitrogen dioxide observations. The ozonesonde observations of atmospheric ozone profiles at Salekhard aerological station are carried out since 1997. Currently, we use 2Z-ECC ozonesondes for ozone profile observations in the winter-spring periods. The results of ozonesounding at Salekhard station are in the NDACC database. In December 2012 and in January 2013 we plan to upgrade this ozonesounding station with the iMet-1 radiosonde and ECC 2Z-V7 ozonesonde. This type of ozonesonde will be used in the winter-spring season of 2013. The resulting total ozone and ozonesonde profile measurements recorded in 2012 and in January-March 2013 by the SAOZ, Brewer and ozonesonde instruments will be presented and discussed.