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Total ozone and NO_2 observations in Anadyr (64.5N, 177.3E), Russia in 2011

D. Shepelev (1), V. Dorokhov (2), V. Yushkov (2), A. Makshtas (3), F. Goutail (4), J.-P. Pommereau (4), and A. Pazmino (4)

(1) Hydrometeorological observatory Anadyr, Anadyr, Russian Federation (napalm77@yandex.ru), (2) Central Aerological Observatory, Moscow, Russian Federation (vdor@starlink.ru), (3) Arctic and Antarctic Research Institute, St. Petersburg, Russian Federation, (4) LATMOS, CNRS, Guyancourt, France

SAOZ (Systeme d'Analyse par Observation Zenitale) is a UV-visible diode array spectrometer developed at the Service d'Aeronomie, CNRS, France in the late 80s for monitoring stratospheric ozone (O_3) and nitrogen dioxide (NO_2). It is now manufactured at the Laboratory for Atmospheric Research (LATMOS) for measuring total atmospheric ozone, nitrogen dioxide and some other atmospheric trace gases (BrO, O4). The spectrometer uses the technique of measurements in the ultraviolet and visible wavelengths of sun in the registration of the zenith sky. The wavelength range of the SAOZ instrument is in Chappuis band of ozone absorption, with a spectral resolution of 1 nm for version V-1024, and 0.7 nm for the new Mini-SAOZ version V-2048. Measurement accuracy is 6% for total ozone and 10% for nitrogen dioxide. Data for the atmospheric content of O_3 and NO_2 measured by SAOZ spectrometers are available at the World SAOZ database, http://saoz.obs.uvsq.fr/SAOZ-RT.html, since 1988 from Dumont d'Urville station in the Southern Hemisphere, since 1989 from the Sodankyla observatory in Finland, and from additional SAOZ stations in 1990-1991. The first Asiatic SAOZ station started operation in 1991 at Zhigansk, East Siberia, Russia. A SAOZ spectrometer has been operating at Salekhard station, West Siberia, Russia since 1997. The new SAOZ UV-visible instrument is used to measure atmospheric trace gases in the polar area of the Russian Far East for the first time. The resulting total ozone and nitrogen dioxide measurements from the new model V-2048 Mini-SAOZ UV-visible spectrometer at the Hydrometeorological observatory Anadyr in all seasons of 2011 will be shown and discussed.