



## **Ozone depletion in the Arctic winter 2004/05 derived from the satellite (SAGE-III) and balloon measurements**

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The results of satellite observation (SAGE-III) and *in situ* ozone balloon measurements over Salekhard station (67N, 67E) were used for calculating ozone loss in the Arctic vortex during winter-spring 2005. A total ozone depletion was derived by the vortex-average method taking into account diabatic descent of the air masses. The diabatic cooling rates at different potential temperature levels were calculated using the NASA radiation scheme and real ozone profiles derived from balloon and satellite measurements inside the Arctic vortex in winter-spring 2005. This winter was characterized by extremely low stratospheric temperature over an unusual long period providing favorable conditions for PSC-I and PSC-II formation. Chemical ozone loss of about 60% was observed at 450K potential temperature level from the mid-January till the end of March 2005. During the same period column ozone loss in the vertical region 375K-625K potential temperature reached  $116.4 \pm 9.5$  DU (vortex averaged).