

FIRST RESULTS ON TROPOSPHERIC OBSERVATIONS BY THE GLOBAL OZONE MONITORING EXPERIMENT, GOME, ON ERS 2

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The causes for the depletion of boundary layer ozone have been investigated during the EC-sponsored Arctic Tropospheric Ozone Chemistry (ARCTOC) campaign at Ny Alesund, Spitsbergen. In the beginning of May 1996 an air mass passed over the site which contained little ozone to at least 500 m a.s.l. The ozone had decreased from 40 ppb to virtually zero and the BrO increased to 20 ppt which was followed by differential optical absorption spectroscopy (DOAS) along a 4.2 Km lightpath and between 20 and 474 m a.s.l. with light from Xe-lamps. The event lasted for about eight days. The cause for the ozone depletion has been similar as in the year before, namely photocatalytic destruction involving bromine.

At the same time the atmosphere above Svalboard was cloudless so that GOME followed the total atmospheric column of BrO. As recently global columns of BrO were measured by GOME (Hegels et al., 1996) the tropospheric burden should be evaluated. In the end it is expected to obtain information not only about the history of the boundary air mass containing the BrO and its extension but also about its further fate in the troposphere.

Hegels, E., P.J. Crutzen, T. Klöpfel, D. Perner, J.P. Burrows, A. Ladstätter-Weienmayer, M. Eisinger, J. Callies, A. Hahne, K. Chance, U. Platt, and W. Balzer, Satellite measurements of halogen oxides by the Global Ozone Monitoring Experiment, GOME, on ERS2: Distribution of BrO and comparison with groundbased observations, XVIII Quadrennial Ozone Symposium, Vol. Abstracts, p. 229, L'Aquila, Italy, 12-21 September, 1996