

Overview of Middle Atmospheric Water Vapour and Ozone Measurements at Ny-Ålesund in Winter 2015/16

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MIAWARA-C

GROMOS-C

GROMOS-C is a ground based microwave radiometer built at the University of Bern.

It measures the 110 GHz ozone emission line at an elevation angle of 22° in the four cardinal directions (N-E-S-W).

The altitude range is 23 - 70 km and the highest time resolution is 1 hour giving the possibility to study diurnal variation of ozone (see P207).



OZORAM

OZORAM is a ground based microwave radiometer built at the University of Bremen.

It measures the 142 GHz ozone emission line

It has been operated at Ny-Alesund, Svalbard 79°N/12°E with the current setup since 2008.

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SD-WACCM



Relative Differences



Special Event: Sudden Stratospheric Warmings in February and March 2016



Conclusion and Outlook

The water vapour and ozone time series of the winter 2015/16 show many interesting events related to the dynamics of the polar vortex

The agreement of the instruments and the model are good in general

Measurements inside and outside of the polar vortex are performed with GROMOS-C

Due to the high time resolution of the instruments, dynamical events are captured very well in the water vapour and ozone time

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