HIGH RESOLUTION TEMPERATURE AND OZONE PROFILES MEASURED BY GOMOS OVER THE SOUTHERN HEMISPHERE DURING THE POLAR VORTEX SPLIT

S. Hassinen (1), E. Kyrölä (1), V. Sofieva (1), A. Hauchecorne (2), O. Fanton d’Andon (3)
(1) Finnish Meteorological Institute, Geophysical Research, (2) Service d’Aéronomie du CNRS (3) ACRI

In September 2002, the stratospheric polar vortex of the southern hemisphere split in two during a major warming, leading to a corresponding split in the ozone hole. Such an event has not been witnessed before in the SH and this kind of event is rare even over the northern hemisphere. What caused the split and what happened during the split are interesting questions in the stratospheric research.

GOMOS on board ENVISAT measures vertical profiles of ozone with a very good vertical resolution using the stellar occultation method. Furthermore, with two fast photometers, GOMOS can measure stratospheric temperature profiles with sampling resolution better than 100 m. The chemical and dynamical processes in stratosphere can be studied more accurately with this kind of data.

In this poster, we present GOMOS ozone and temperature profiles during the vortex split.