

REPORT OF THE CHAIRPERSON OF SESSION V: MICROWAVE / LIDAR STUDIES

Chairperson: Alexander Nerushev

Four reports were presented at this session dealing, to that or other extent, with the use of the available or future data of active sounding of the atmosphere obtained by Lidars, Scatterometers, Synthetic Aperture Radars (SARs).

The report made by Anne Grete Straume from the European Space Research and Technology Centre (ESTEC) Noordwijk, The Netherlands gave a complex description of scientific and practical problems to be solved in the frameworks of the ADM-Aeolus mission. Much attention in the presentation was given to possibilities of wind field retrieving in the troposphere and the lower stratosphere by ESA's Doppler Wind Lidar to be launched by the end of 2008.

Ad Stoffelen of Koninklijk Nederlands Meteorologisch Instituut (KNMI) presented two reports. The first one gave a brief description of the new SOSE (Sensitivity Observing System Experiment) method allowing one to estimate the impact of future observation systems on numerical forecasting accuracy of extreme weather events. The Doppler Wind Lidar (DWL) was chosen as a future observing system. Different scenarios of the DWL application were analyzed. The SOSE-cycling method was applied to the 1999 Christmas storms that caused severe damage over France and Germany and that were badly forecasted. It is shown that additional wind profiles retrieved by the DWL could improve the forecasting skill of the 1999 Christmas storms. The second presentation dealt with the application of the scatterometer data for all-weather high-resolution winds over the oceans. Analyzed were the KNMI available now and future user software and wind data products, that make it possible to provide scatterometer derived wind field data with the resolution of 12.5 km.

The presentation made by Thomas König from the German Aerospace Center DLR was dealing with the problems connected with remote sounding of extreme wind and ocean wave fields. Demonstrated were global wind fields and ocean elevations acquired during several years. They were obtained with specially developed data processing programs for Synthetic Aperture Radars (SARs) located aboard the ERS-1/2, ENVISAT, RADARSAT satellites. Wind and ocean wave fields for separate extreme situations, in particular, in some tropical cyclones were analyzed.

All the reports presented were of great interest for the participants of the 8th International Winds Workshop, there were numerous questions asked and fruitful discussions followed.

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