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German Weather Service celebrates new wind profiler network

The wind profiler/RASS network of the German Weather Service (Deutscher Wetterdienst, DWD) was declared operational with an official inauguration and presentation to the media in October 2006. The event was organized in connection with an expert symposium at the University of Bayreuth. Several keynote speakers expressed the importance of the wind profiler network as a major element for upper air measurements.

High performance delivery

The opening words from DWD Offenbach's Professor Hoffmann emphasized the speed and performance demonstrated by all participating parties. Three wind profiler systems were installed in three years. The first system was installed in 2003 at Ziegendorf, Mecklenburg-Vorpommern. The second installation took place a year later at Nordholz, Niedersachsen. The last system was installed at Oschersberg near Bayreuth, North Bavaria.

All three windprofilers are operating continuously and are fully automatic. They provide a full wind profile up to 16 km and a temperature profile with the RASS component up to about 4 km every 30 minutes.

Local and international benefits

Dr. Dibbern from DWD's headquarters in Offenbach stressed the usefulness of data gathered from the windprofilers. It benefits the prediction models of both German and European weather services.

Professor Foken, head of the Department of Micro-Meteorology at the Geo-Oecological Faculty, University of Bayreuth, enthusiastically explained how valuable it is that the installation site is situated near Bayreuth. The profiler data compliments weather data gathered by networks in the area, and helps to validate measurements and special campaigns. It also enables his students

to make attractive diploma works and achieve new innovative findings. The research studies also benefit the public, and may contribute to the work of the German Weather Service.

The scientific background of profiler technology was presented by Volker Lehmann of the Lindenberg Observatory, where the first profiler prototype was introduced in 1996. Tim Oakley, Program Manager of the European Windprofiler Program presented facts about the performance and data availability of windprofilers around the world. According to his report, the quality and availability of the operational German windprofiler network data is excellent and exceeds all expectations.

As the supplier and manufacturer of the windprofiler network, Vaisala was also represented at the symposium. Ron Shellhorn, Business Unit Manager of Vaisala Windprofilers, presented Vaisala's plans on how it hopes to further improve its windprofiler technology.

Widespread interest and positive feedback

The press also had an opportunity to visit the windprofiler site at Bayreuth. Several groups and media teams visited the high gravel wall erected around the profiler installation to see the impressive setup. DWD personnel and representatives from Vaisala explained the details of the construction and operations. Particularly interesting was the fact that remote monitoring of all system parameters and status information is enabled with web-based tools. This reduces effort and costs for the DWD's radar service and maintenance team.

The very positive feedback from the audience acknowledged the professional design and large complexity of the system. The last installation in Bayreuth was completed in only five weeks by the Vaisala team, after the earthwork and infrastructure were prepared in summer 2005. Despite the relatively high one-off initial investment cost of the windprofiler/RASS network, the cost of data over the entire lifecycle of a profiler is very low as no consumables or manpower are required.

The measurement data of all profiles, including the first research and test prototype installed in 1996 in Lindenberg, is available at www.metoffice.gov.uk/research/interproj/cwinde/profiler/index.html ■