



The new Austrian dual-polarized weather radars: data quality and radar rainfall product

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In 2013 the upgrade of the Austrian operational weather radar network to dual-polarization technique has been completed. The dual polarized radar data could provide significant improvements in numerous applications such as precipitation analyses, monitoring, and nowcasting. But the complexity of the technology and the special Austrian topography (two weather radars on the plains, three radars above 2000 meters above sea level) require a comprehensive analysis of the data to obtain experience concerning quality and quality control mechanisms, the best possible usage, and its application.

The FFG-project TUNDRA (TUNing Dual-pol Radars in the Alps), a cooperation between Zentralanstalt für Meteorologie und Geodynamik (ZAMG) and Austro Control GmbH, aims for such a comprehensive analyses of the new data and search for the best possible data processing procedure toward derived precipitation products.

An overview of the project will be presented. This includes statistical analyses of the data quality with the testing of different data quality monitoring procedures, such as sun-signal, vertical-scan and ground clutter analyses, as well as a description of the derived new radar rainfall product. Case studies will provide an overview of the overall performance, evaluating the proposed radar rainfall product against rain gauges and disdrometer.