

## **The new German guideline for radar measurement of precipitation**

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The series of standards VDI 3786 is divided into several parts that deal with measurement methods for meteorological variables. Up to now, a document has been missing describing the general instrument and the processing and application of the obtained measurement data.

This standard is part 20 of the VDI 3786 series and describes sounding of the atmosphere using ground-based weather radar systems at wavelengths between 3 cm and 10 cm. The chapters comprise

- scope
- principle of radar based measurement of precipitation
- setup and operation of a weather radar
- measured variables and target variables
- quantitative precipitation estimation
- variables affection precipitation estimation
- quality assurance
- coordinate systems
- merging with other measurement data
- nowcasting
- requirements and applications in hydrology

In addition, Appendix A describes vertical soundings using a micro rain radar.

Many professional users, such as meteorologists, water managers and engineers in agriculture, utilise the data obtained by the radar network to detect the precipitation distribution. For such users the quantitative precipitation estimation is of great importance. For this reason, Part 20 covers not only measurement techniques per se but also the procedures used in the preparation of the data for various applications.

Using the example of water management, section 13 describes in detail a number of practice-relevant applications and their requirements.

The document has been produced in German and English language and has passed final checks to become the official German standard in the second half of 2014. The guideline shall constitute the initial document for an upcoming ISO standard working group to be formed in 2014.