

Micro Rain Radar MRR-2



- Vertical profiling of rain rate and liquid water content
- Computes complete drop size distribution
- Height range up to 6000 m with 30 range gates
- Adjustable averaging intervals 10 - 3600 s
- Very low maintenance efforts – high system reliability
- High quality measurements free of wind effects, sea spray and surroundings

Micro Rain Radar MRR-2

Typical Applications

- Remote measurement of rain rate, reflectivity, falling speed
- Calculation of liquid water content
- Complete doppler spectra available
- Vertical profiles up to 6 km, up to 30 measuring heights
- Verification of weather radar data
- Shortcast of severe precipitation events
- Monitoring of melting zone
- Investigation of thunderstorm clouds
- Long term unattended operation
- Icing protection by antenna heating
- No moving parts, no maintenance

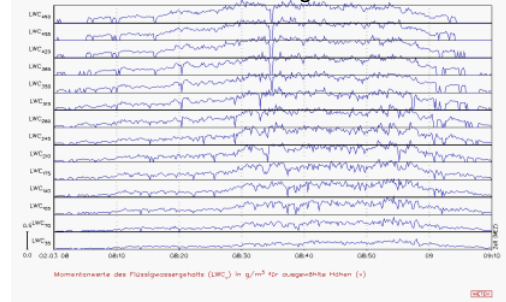
The Micro Rain Radar MRR-2 represents a new technology for comprehensive investigations of precipitation and cloud dynamics. The system is mounted on the surface and allows precise measurements of the doppler spectra caused by hydrometeors. For the liquid phase the rain rate and the liquid water content can be derived online.

The transition zone between frozen and liquid phase is identified in the profile by a significant local maximum of the radar reflectivity. Mixed phases getting obvious inside detection volume of horizontal scanning weather radars. Further the relation between drop size distribution and reflectivity can be verified as the basic function for precipitation measurement by radar technology.

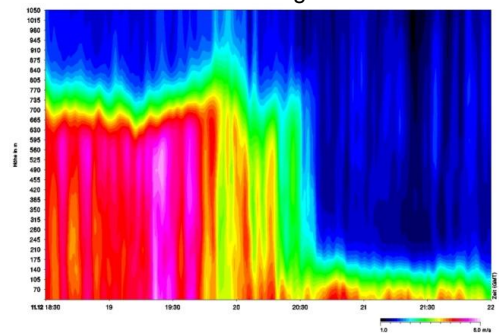
The MRR can be easily installed independently of site conditions. A heating for the offset antenna is available in order to avoid coverage by ice or snow. Adjustment of the system parameters by user via remote access link (GSM) is possible. The system requires no maintenance and has been used for routine measurements even at adverse sites.

Transmit power	50 mW
Frequency	24 GHz
Averaging interval	10 - 3600 s
Height resolution	10 - 200 m
Number of range gates	up to 30
Antenna heating	230 VAC / 24 VDC, 25 W
Interface	RS232 / RS422 / LAN
Power supply	24 VDC, 25 W
Weight (without power supply and cable)	6 kg

Time series of liquid water content for different heights



Falling velocity of droplets by MRR: decent of bright band



Reflectivity derived by MRR

