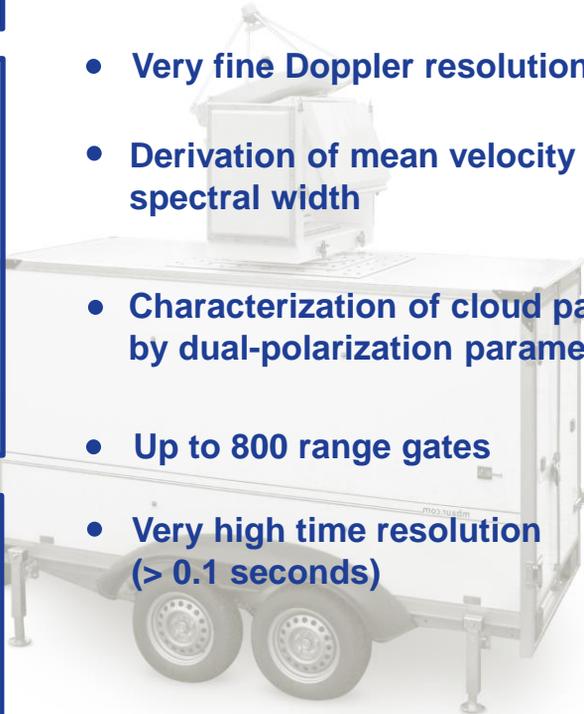


# Cloud Radar MIRA-35



- Tropospheric profiler for long term observation of clouds
- Full hemisphere scanning option for 3-dimensional imaging of clouds structures
- Profiles of Doppler spectra and reflectivity
- Very fine Doppler resolution (5 cm/s)
- Derivation of mean velocity and spectral width
- Characterization of cloud particles by dual-polarization parameters
- Up to 800 range gates
- Very high time resolution (> 0.1 seconds)

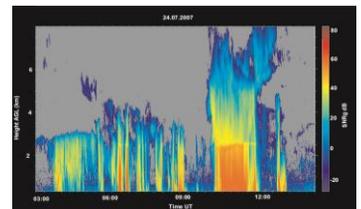
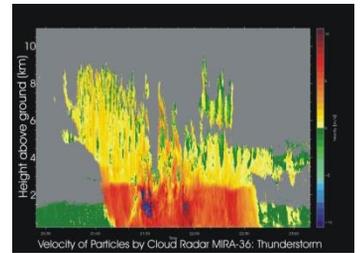
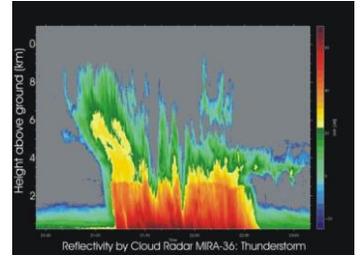


# Cloud Radar MIRA-35

## Typical Applications

- Research in meteorology
- Cloud particle characterization
- Icing hazard detection
- Fog detection and nowcasting
- Wake vortex monitoring
- Eddy correlation fluxes
- Wind shear detection
- Synergy with other remote sensing instruments
- Meteorological networks
- Input for weather prediction
- Research stations
- Airports
- Marine and offshore platforms
- Industrial sites
- Wind energy
- Sport events

MIRA-35 is a Ka-Band Doppler radar with high sensitivity allowing to observe even light clouds. It is designed for unattended long-term operation. MIRA-35 can be mounted on a pedestal allowing elevation and azimuth scanning within zenith angles from -90 to +90° and azimuth angles from 0 to 360° (continuous rotations).



|   |  |
|---|--|
| Transmit frequency                            | 33 – 37 GHz, 35.2 GHz recommended by ECC   |
| Peak power / average power                    | 30 kW / 30 ... 60 W  |
| Sensitivity                                   | - 53 dBZ (5 km range, 30 m range resolution and 10 s time resolution, 1 m antenna)   |
| Max. measuring range                          | Depending on pulse width and PRF, up to 58.8 km  |
| Min. measuring range                          | Typically 100 ... 150 m, depending on pulse width, full sensitivity above 450 m  |
| Max. number of gates                          | Adjustable, max. 800 (each in-phase and quadrature phase)  |
| Min. time resolution                          | 0.1 s  |
| Antenna diameter                              | 1 m, 2 m (1.2 m on request)  |
| Beam width                                    | 0.6 ° with 1 m antenna and 0.3 ° with 2 m antenna  |
| Pulse width / range resolution                | 100 ... 400 ns / 15 ... 60 m   |
| Pulse repetition frequency                    | 2.5 ... 10 kHz   |
| Velocity resolution                           | ≥ 5 cm/s   |
| Polarization parameters                       | Linear polarization on transmit, co and cross polarized signals are received simultaneously. LDR and co-cross-correlation can be computed. Alternatively STAR mode can be provided.                    |
| Dimensions of the radar electronics           | Transmitter 19" Chassis 9 U, receiver 4 U, PC 4 U (depth of all units 530 mm).   |
| Power consumption depending on the duty cycle | Radar: 950 W at 1/500, 600 W at 1/1000<br>PC+DSP: 150 W<br>Air conditioning: 800 W for the vertically viewing and 1.6 kW for the scanning system.<br>Wave guide de-humidifier, pressurization: ≤ 100 W |

