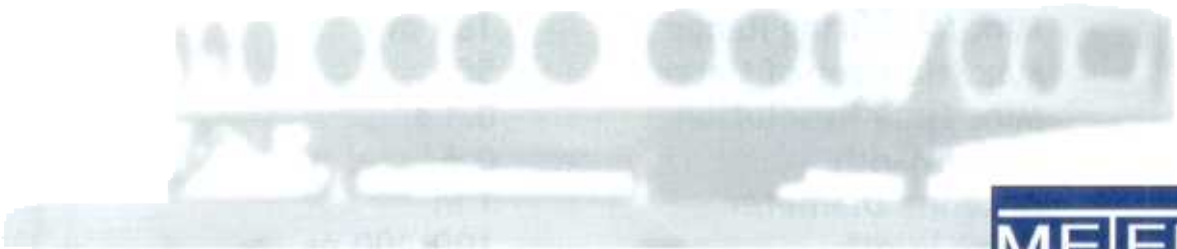
Cloud Radar - MIRA 36

- Long Term Observation of Clouds
- Investigation of 3-dimensional Cloud Distribution from Boundary Layer to Stratosphere
- Characterisation of Cloud Particles by Spectral Analysis
- Profiles of Doppler Spectra and Reflectivity
- Derivation of Mean Velocity and Spectral Width
- Very High Time Resolution (>0.1 seconds)
- Up to 500 Range Gates



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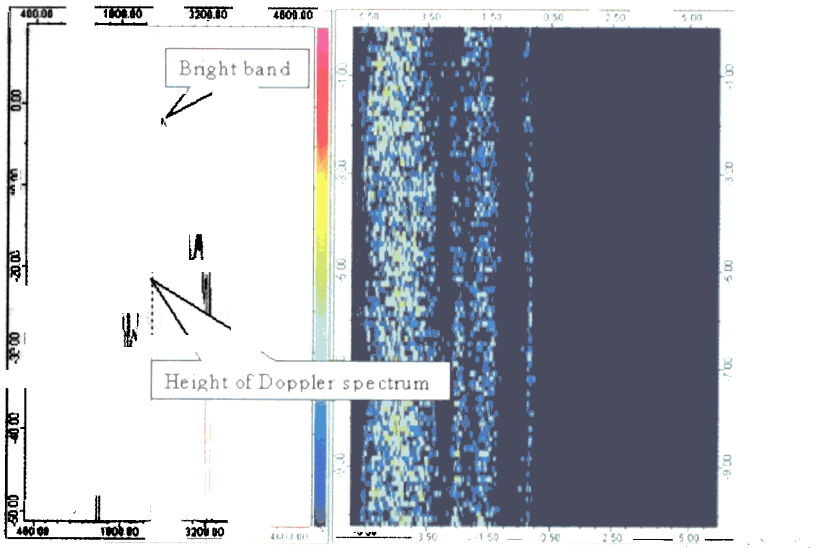
Example:



Left Panel:
The red line shows "newest" profiles of radar reflectivity. The time resolution is 0.1sec and the height resolution is 30m. Weather situation: Stratiform clouds with approx. 1000 to 1400m cloud base height. The reflectivity maximum in about 2600m is at the 0°C level, where falling ice crystals begin to melt (bright band). The green line indicates the minimum detectable reflectivity.

Right Panel:
Time history of "instantaneous" Doppler Spectra. The color indicates the spectral power. The time runs from bottom to top spanning a total interval of 10sec. The velocity axis spans -5.6 m/s to +2.8 m/s.

Specifications:

Transmit Frequency	36.5 GHz
Peak Power	30 kW
Sensitivity	-48 dBZ (5 km range, 30 m range resolution and 10s time reslution)
Max. Measuring Range	15 km
Min. Measuring Range	180 m
Max. Number of Gates	500
Min. Time Resolution	0.1 s
Beam Width	0.6°
Antenna Diameter	1 m
Pulse Width	100-400 ns
Pulse RepetitionFrequency	2.5/5.0/7.0 kHz
Velocity Resolution	5 cm/s