DIGITAL RADIO-THEODOLITE SYSTEM

The mono-pulse angle measurement mode is adopted in this digital radio-theodolite system. Through tracking the radiosonde carried and raised up in the air by the ballon, the system can measure the temperature, humidity, atmospheric pressure at different layers of atmosphere up to 30km altitude, and calculate the wind direction & wind speed values at different atmospheric layers. Therefore, the system can provide precise meteorological information of upper air for weather forecasting, meteorological analyses and supports.

Main technical specifications

Operating frequency	L band
Antenna form	Planar array monopulse antenna
Detection range	Slant distance: ≥200km
	Altitude: ≥30km
	Azimuth: 0° ~360°
	Elevation: 8° ~87°
	Temperature: -90 ~ +50
	Pressure: 1060hPa ~ 5hPa
	Humidity: 0~ 100%RH
	Wind direction: 0° ~360°
Detection accuracy	Angular tracking error: 0.11° in elevation, 0.07° in azimuth
	Wind direction: 5° (wind speed ≥ 25m/s), 10° (wind speed<25m/s)
	Wind speed: 1m/s (Wind speed <10m/s),10%(wind speed> 10m/s)
	Temperature: 0.5
	Humidity:5%RH(atmospheric pressure>300hPa),7%RH(atmospheric pressure < 300hPa)
	Pressure: 1.0hPa (atmospheric pressure < 200hPa), 1.5hPa (atmospheric pressure≥200hPa)

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