**Wyoming Cloud Radar (WCR)**

*The Wyoming Cloud Radar is available for deployment on the University of Wyoming King Air (UWKA) or other platforms with support through the LAOF Deployment Pool. Deployment of the WCR on the UWKA requires more resources than the UWKA alone. Requests for the WCR require additional information pertaining to both operational considerations and scientific justification.*

*Specific Technical Questions may be addressed to:*

[*Dr. Samuel Haimov*](mailto:haimov@uwyo.edu) *|**(307) 766-2726*

*[Wyoming](http://www.atmos.uwyo.edu/uwka/wcr/) Cloud Radar summary page*

**RADAR OPERATIONS**

**Aircraft the WCR is requested to be deployed on:**

**Scientific rationale for the use of WCR in the proposed project:**

**Weather events during which radar operation and data collection are desired:**

**Estimated number of flights for which the radar will be used:**

**Desired radar configuration and parameters:**

|  |  |  |
| --- | --- | --- |
| **Antenna configuration** +#(*select all desired*): | |  |
| Up/side-pointing\* antenna (one of the two below): | |  |
|  | linear single-polarization |  |
|  | linear dual-polarization |  |
| Down-pointing antenna (linear single polarization) | |  |
| Down-slant-pointing antenna (linear single polarization) | |  |

+ Alternative configurations could be made available (*e.g.* side-slant pointing antenna)

# Up to 4 fixed-direction antennas are switched electronically on a pulse-by-pulse basis

\* Mechanical switching from side-pointing to up-pointing using a reflector

|  |  |
| --- | --- |
| ***Typical operating parameters*** |  |
| Maximum range: | 6 – 10 km |
| Number of Gates: | 100 – 600 |
| Sampling along the beam: | 7.5 – 37.5 m |
| Minimum sampling along the flight track: | 3 – 4 m |
| First data gate range from aircraft: | 100 m |
| Minimum Detectable Signal: | -25 to -37 dBZ at 1 km |

**IF the typical operating parameters listed above do not meet the needs of the proposed project, please provide necessary parameters along with the scientific rationale:**

**WCR SUPPORTING AND DATA SERVICES**

**Multiple radar coordination requirements:**

*If WCR will coordinate with other radars (airborne or surface), please provide brief details*

**Summary of on-site radar data access and analysis requirements:**

*Standard processed data made available after quality control include:*

* Radar parameters such as co-polarized reflectivity
* Cross-polarized reflectivity (if applicable)
* Mean Doppler velocity (radial velocity along each active antenna beam corrected for aircraft motion)
* 3-dimensional spatial reference (radar platform location and speed, and beam pointing directions)

**Note:** *Consultation with the facility manager or WCR scientist is encouraged before submitting a request that includes the WCR***.**