

Measurement Scheme

The measurements are been made in a 7.6 km line from the RADAR to SE (141.2°) where almost all equipments are located. ADMIRARI is located at the other end of the line (at Delta Village). Half way between the RADAR and the ADMIRARI is the airport, where we located the other microwave profiling radiometer. Multiple rain gauges and disdrometers are placed at each location. GPS water vapor is also available near RADAR (at INPE facility) at the airport.

With the presence of clouds that are starting to or already precipitating, the aircraft flies over the 7.6 km line in 1000 ft elevation increments. Start at 1000 ft, and climb to top of clouds (~12-15K ft) in 1000 ft increments (300m). The flight in the line starts at 00 for 3 minutes, turn around in 3 minute and return, starting the line backwards at 06, finishing at 09 and turning around to start the next transect at 12 minutes. This continues until cloud top and then we can repeat if necessary or not. From 1000 to 15000 ft should take 90 minutes of flying back and forth on the line.

The surface instruments all are coordinated to this 6 minute repeat cycle. The radar does an RHI along the transect line at the same time as the aircraft goes and then does volume scans to get the background field until minute 06. Then it does another RHI. The two radiometers also do RHI equivalents towards the radar on the same 6 minute schedule. The cloud radiometer spends the rest of the time at Zenith and ADMIRARI at 30 degrees (their respective home positions).