1 Scientific Background

The forecast for this IOP was light trade winds with little moisture. The cold front had gone through on Sunday and dry cool weather set in on the islands. The winds had calmed down from Monday and Tuesday and not much weather was expected.

2 General Description of Mission

Since it was the last day of HERO it was deployed on one last mission to Kualoa Ranch in hopes of catching some morning Trade showers. This Windward location did not receive any rain during the IOP, although several clouds were observed on the radar. The DOW was positioned at 21 degrees 31.1576N, 157 degrees 50.2077W with 14 m elevation, although this seems too high. The orientation was 317 degrees because there was blocking to the West from the Ko'olau. There was also some blocking by a ridge to the South, but tradewind cumulus moving onshore from the East and Northeast were in view.

3 Report on the Scanning Strategy

The radar transmitted from 1549 to 1755 UTC. Three cumulus clouds were tracked closely. The first was sizeable cloud at 130 degrees which was followed in by continuous RHIs to capture it’s approach. It died out before it reached the DOW. The second cloud was a small developing cumulus at 90-120 degrees. The whole life-cycle of this short-lived cloud was captured. The third cloud was a persistent one at 30-60 degrees and slightly greater range. The beam was partly blocked at 30 degrees by the Ko'olau. This cloud was captured with time series data. A solar scan in clear conditions was done at 1803.
4 Report on the Radiosonde System

There was no radiosonde release due to lack of helium. The cap had not been closed properly, allowing it to leak from the tank overnight.

Figure 1. RHI image of the second cloud at its peak.

Figure 2. The same cloud as it dissipated.