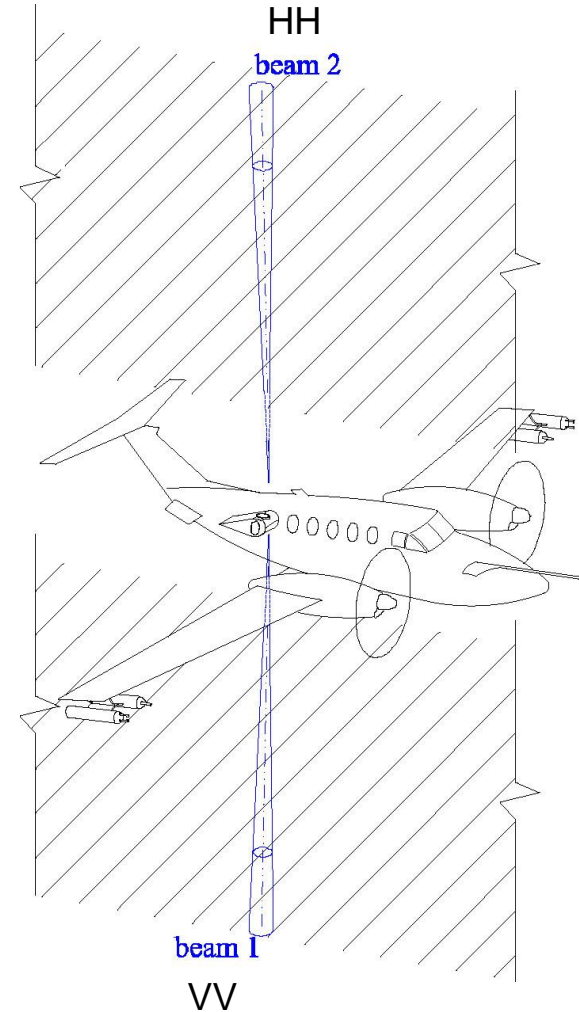
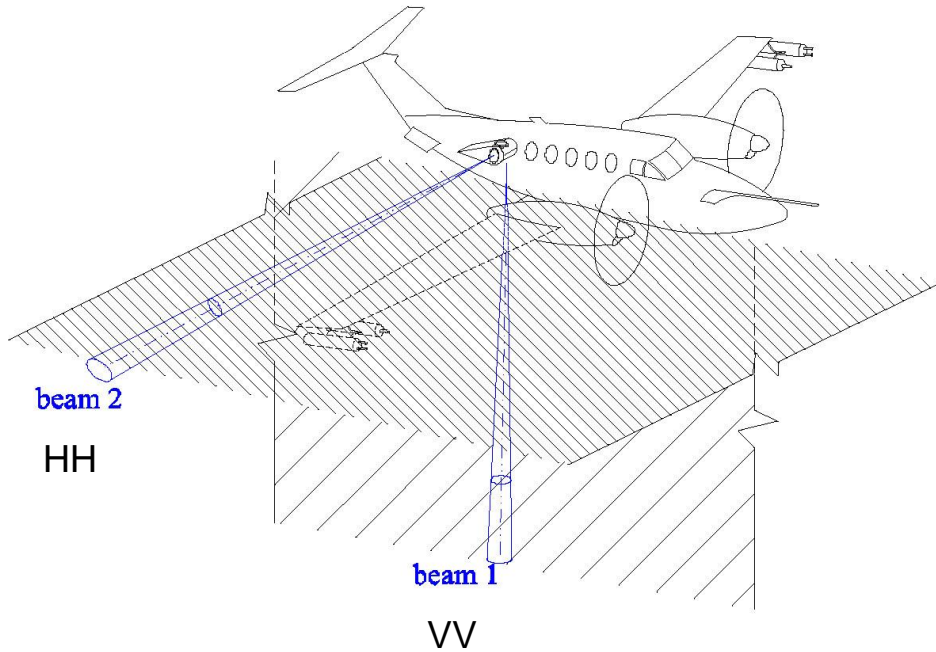


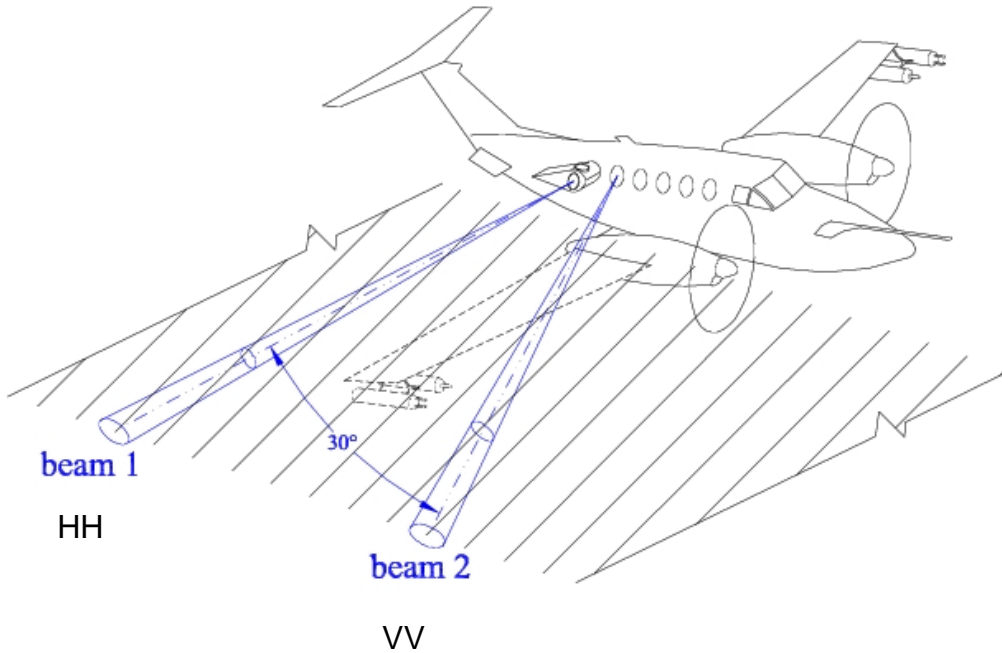
Wyoming Cloud Radar (95 GHz) configurations

PROFILING UWKA CONFIGURATIONS

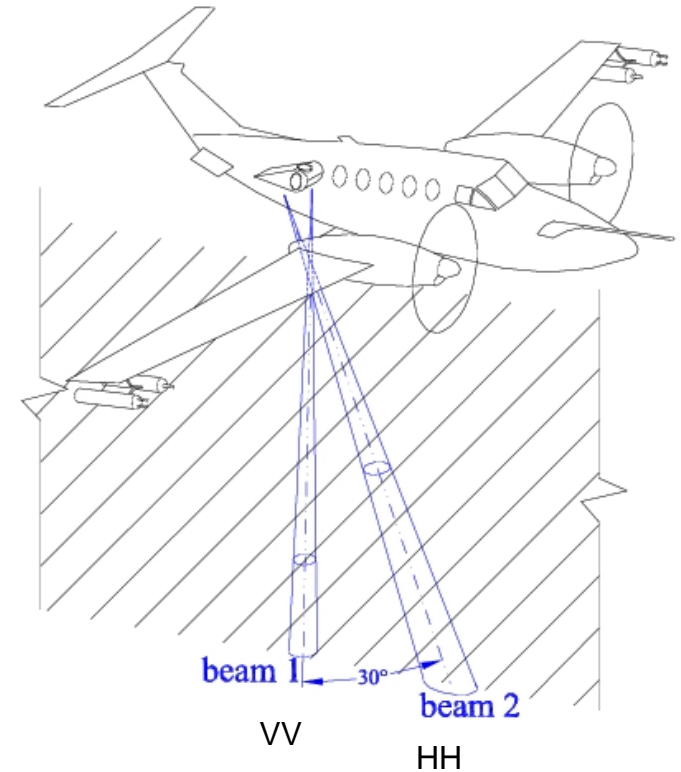


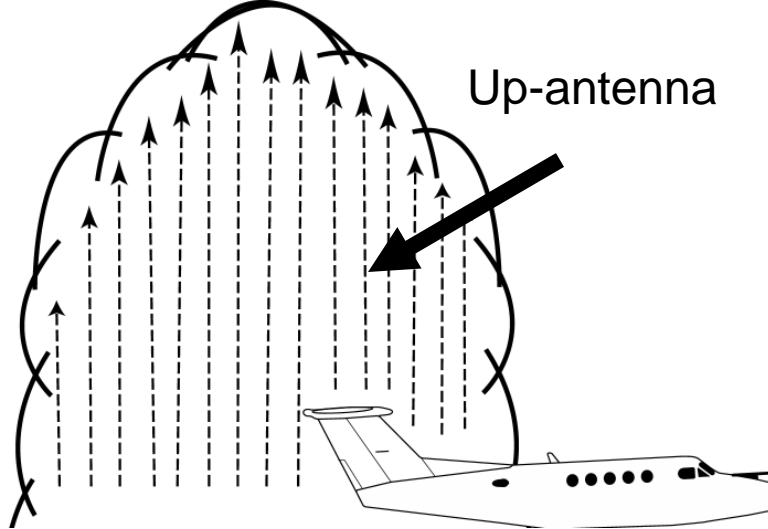
WCR dual-Doppler

Horizontal plane dual-Doppler
HBDD UWKA CONFIGURATION



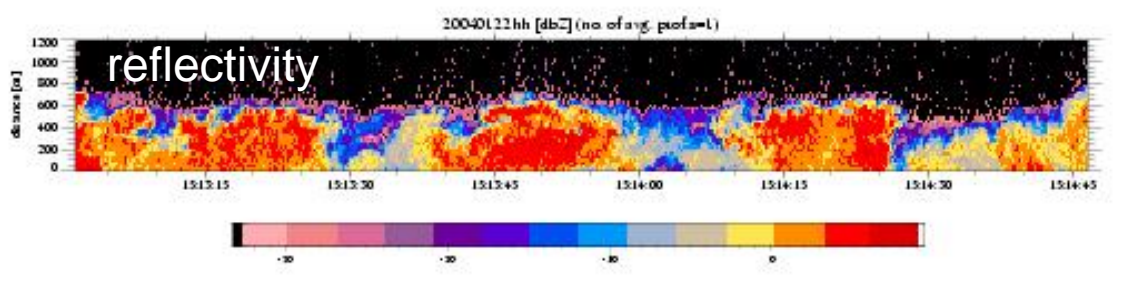
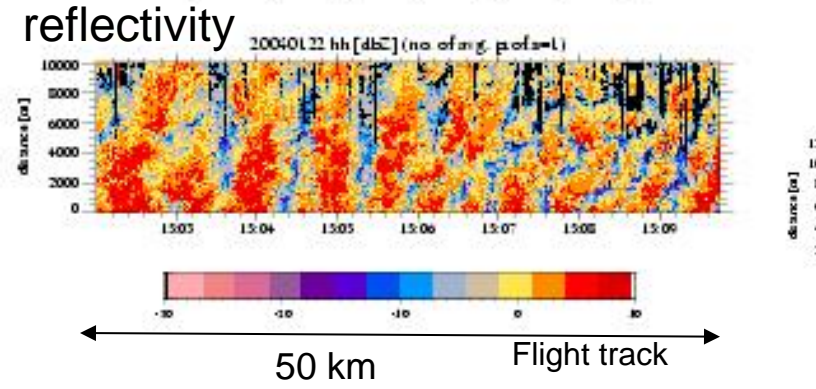
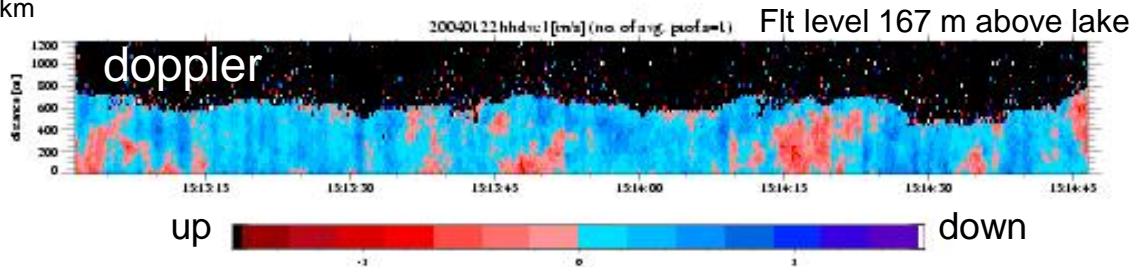
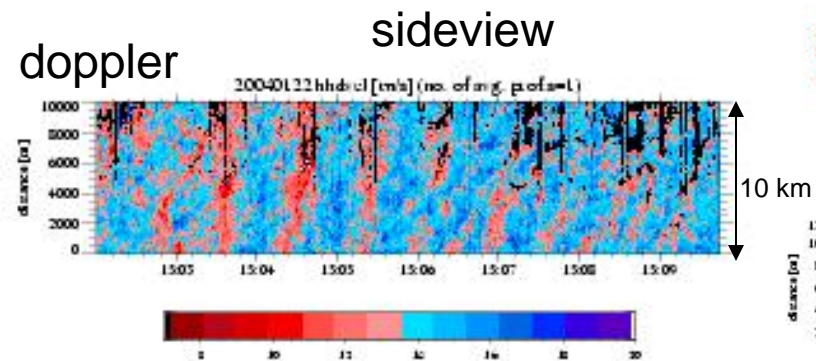
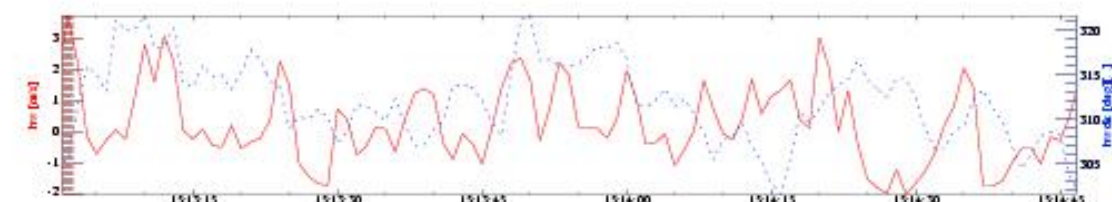
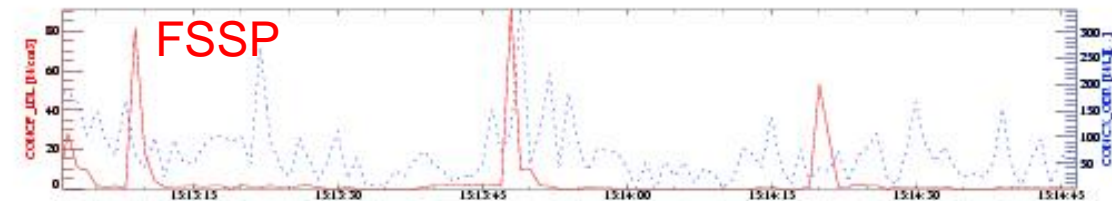
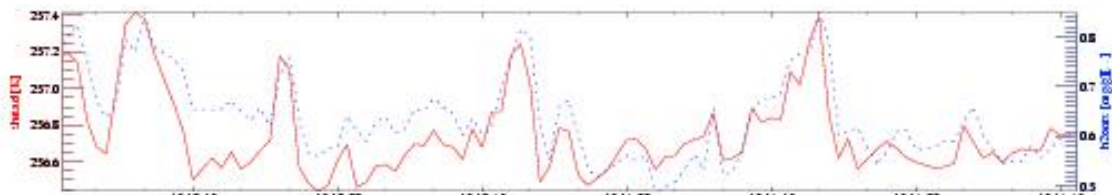
Vertical plane dual-Doppler
VPDD UWKA CONFIGURATION

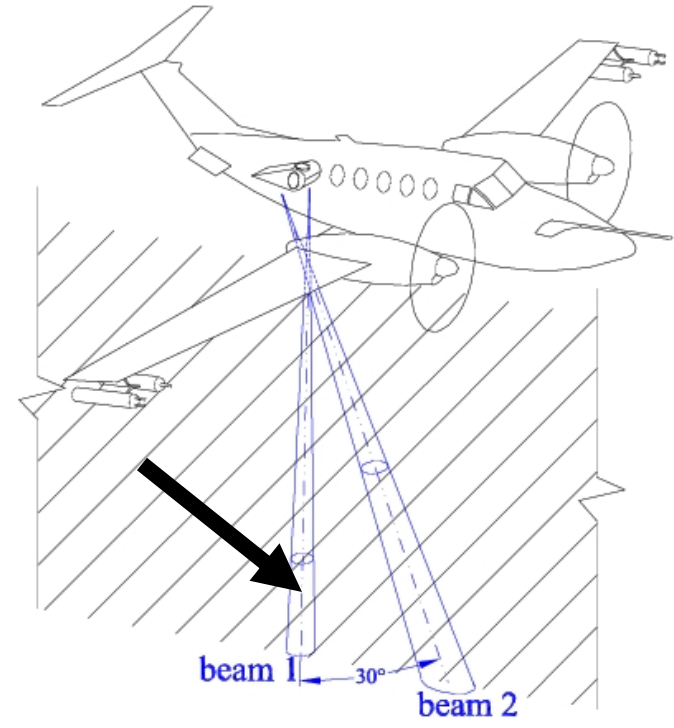
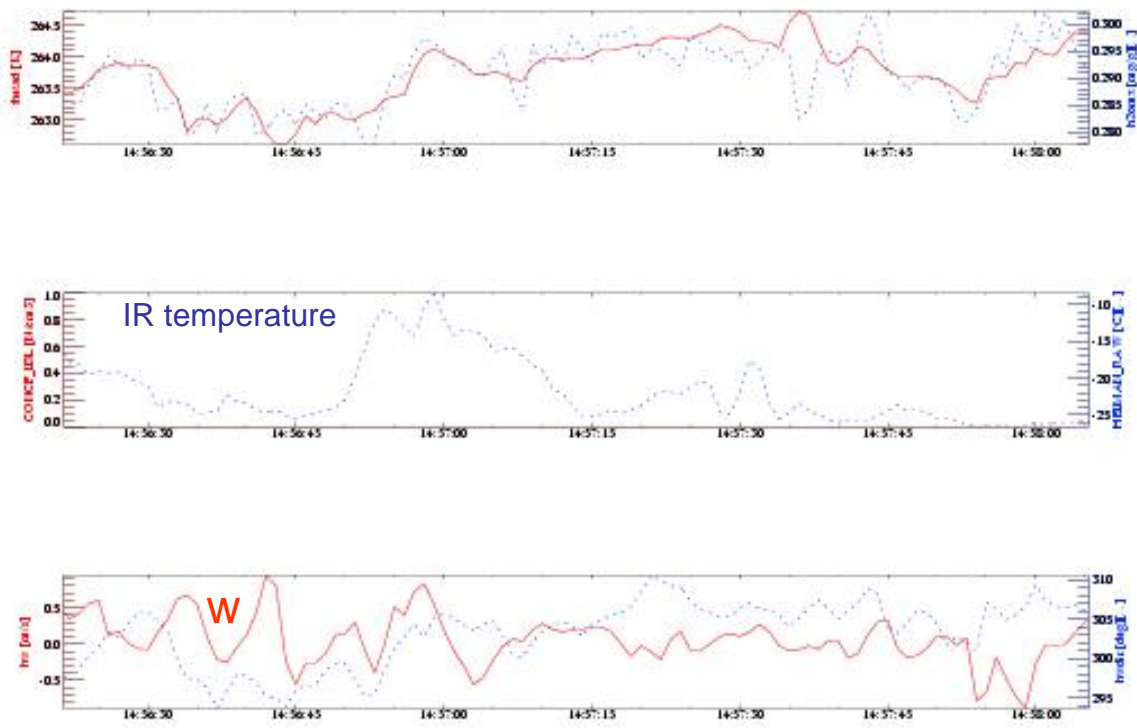




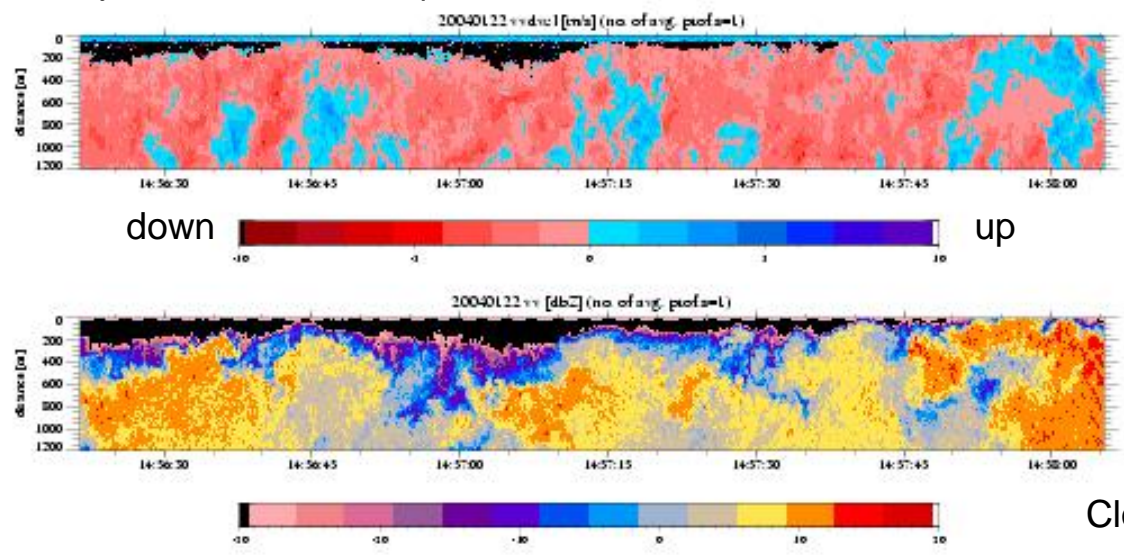
$\theta \sim 257$

Cloud streets over Lake Michigan, 22 Jan 2004





Flt level just above the cloud tops



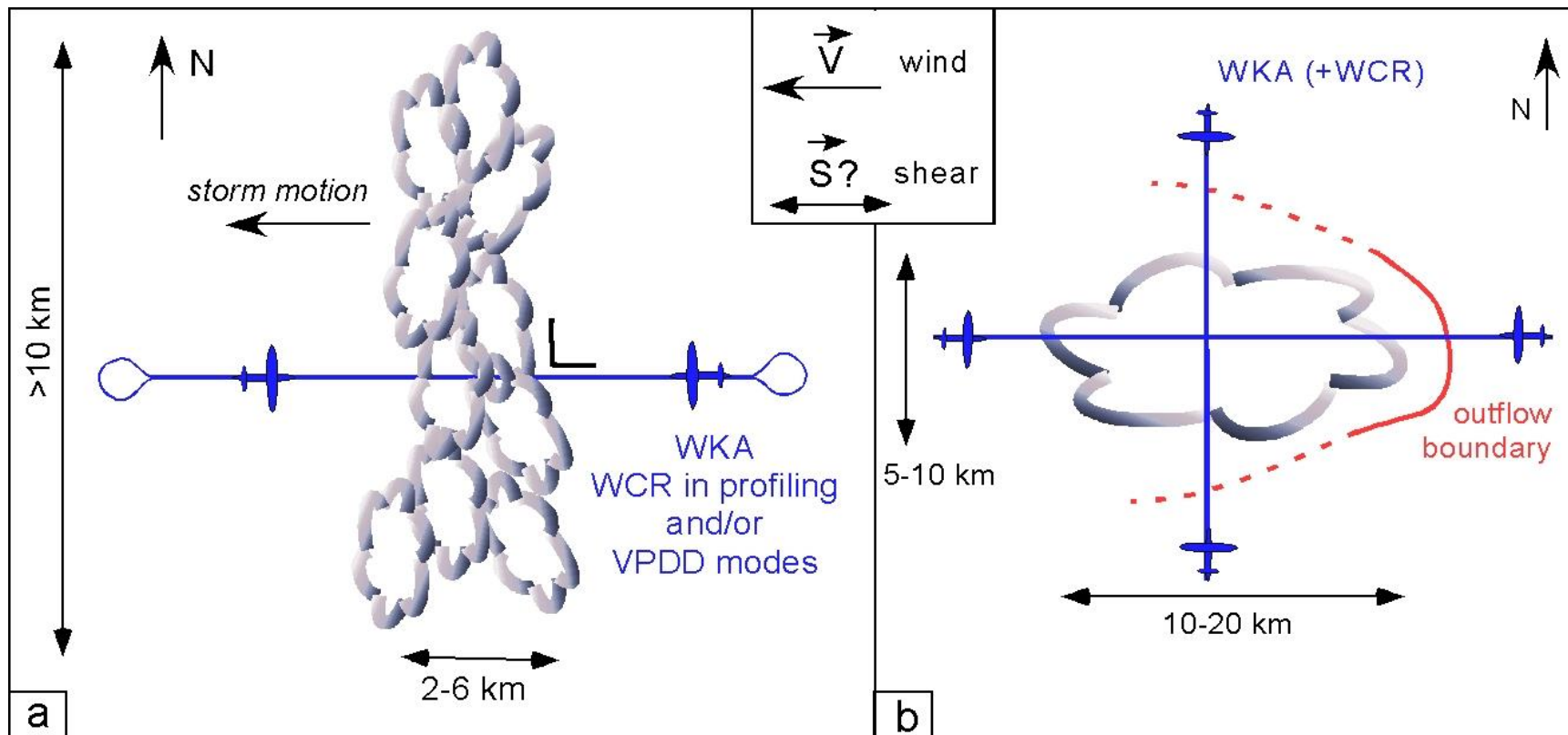
Cloud streets over Lake Michigan, 22 Jan 2004

questions

- How is the mesoscale organization of trade wind cumuli affected by the rain it generates?
- Why are cumuli organized in clusters whose lifetime far exceeds that of the component cells?
- What process controls the regeneration of cells?

methods

- S-POL provides the temporal and mainly horizontal perspective
 - ambient soundings,
 - WCR describe the vertical cloud and kinematic structure
 - WCR data in turn are a context for the KA-measured variations in the thermodynamic, kinematic and water fields.
-
- Flight patterns caveat: the choice of flight levels is dictated by the need for combined in situ and radar sampling. Different flight levels and cloud passages are used depending on the WCR mode. The choices may be simplified somewhat by the move from two to four simultaneously operating antennas.



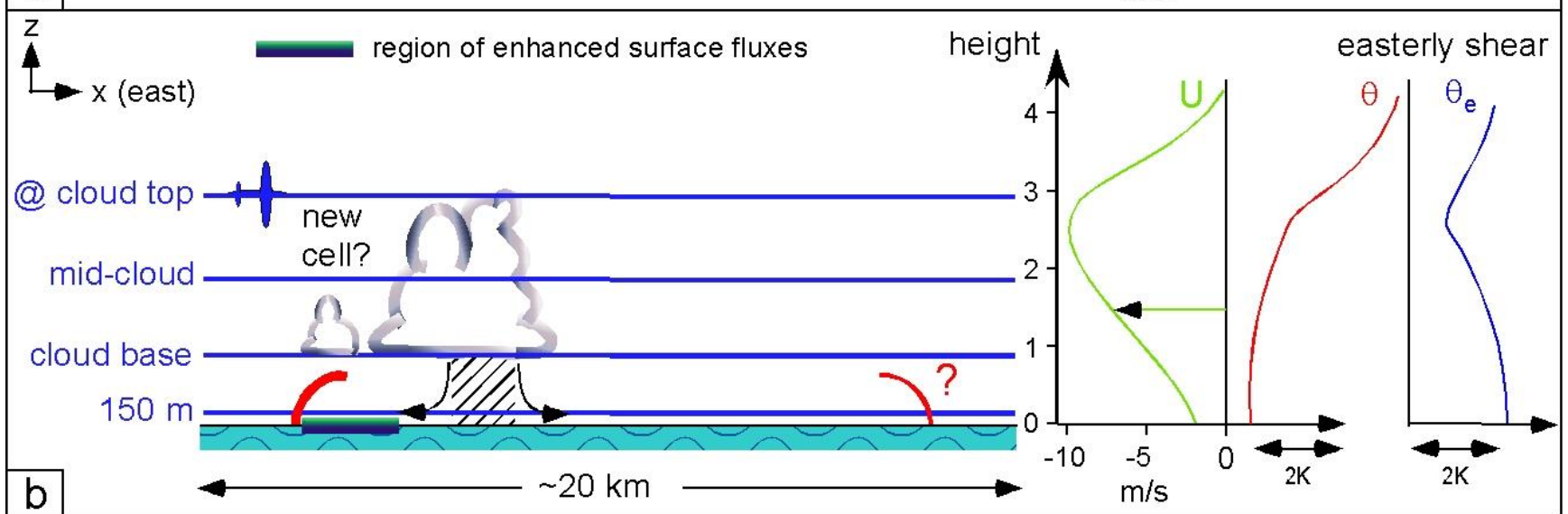
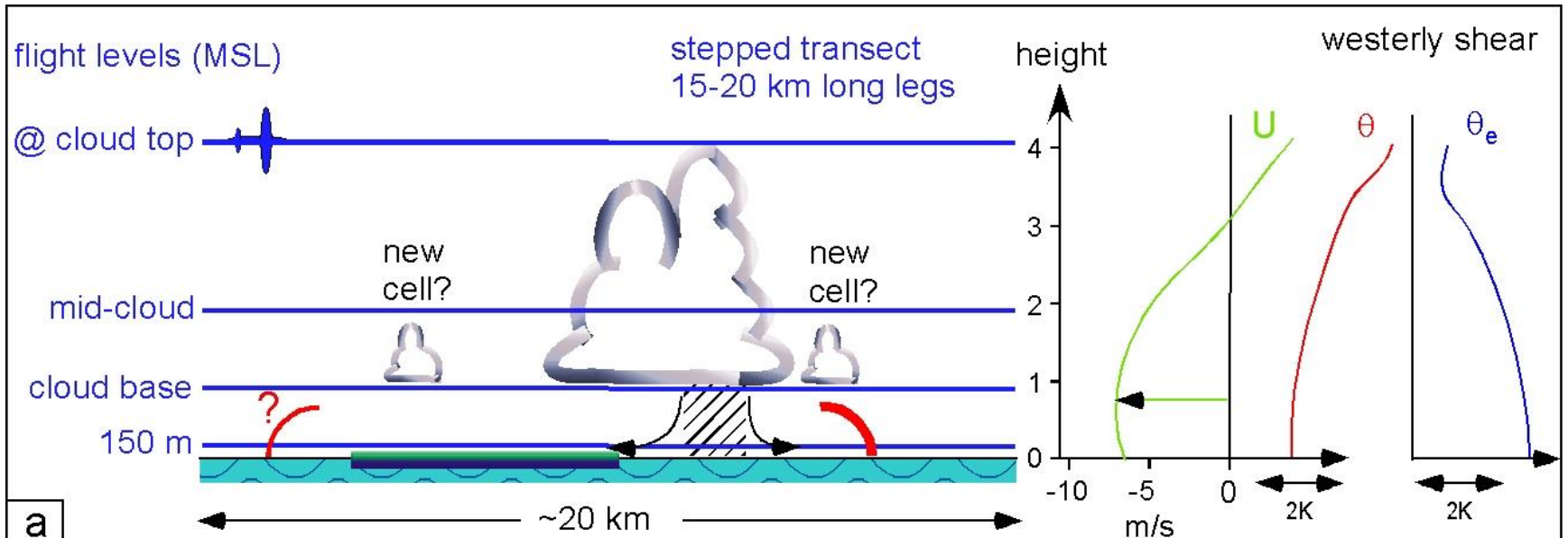
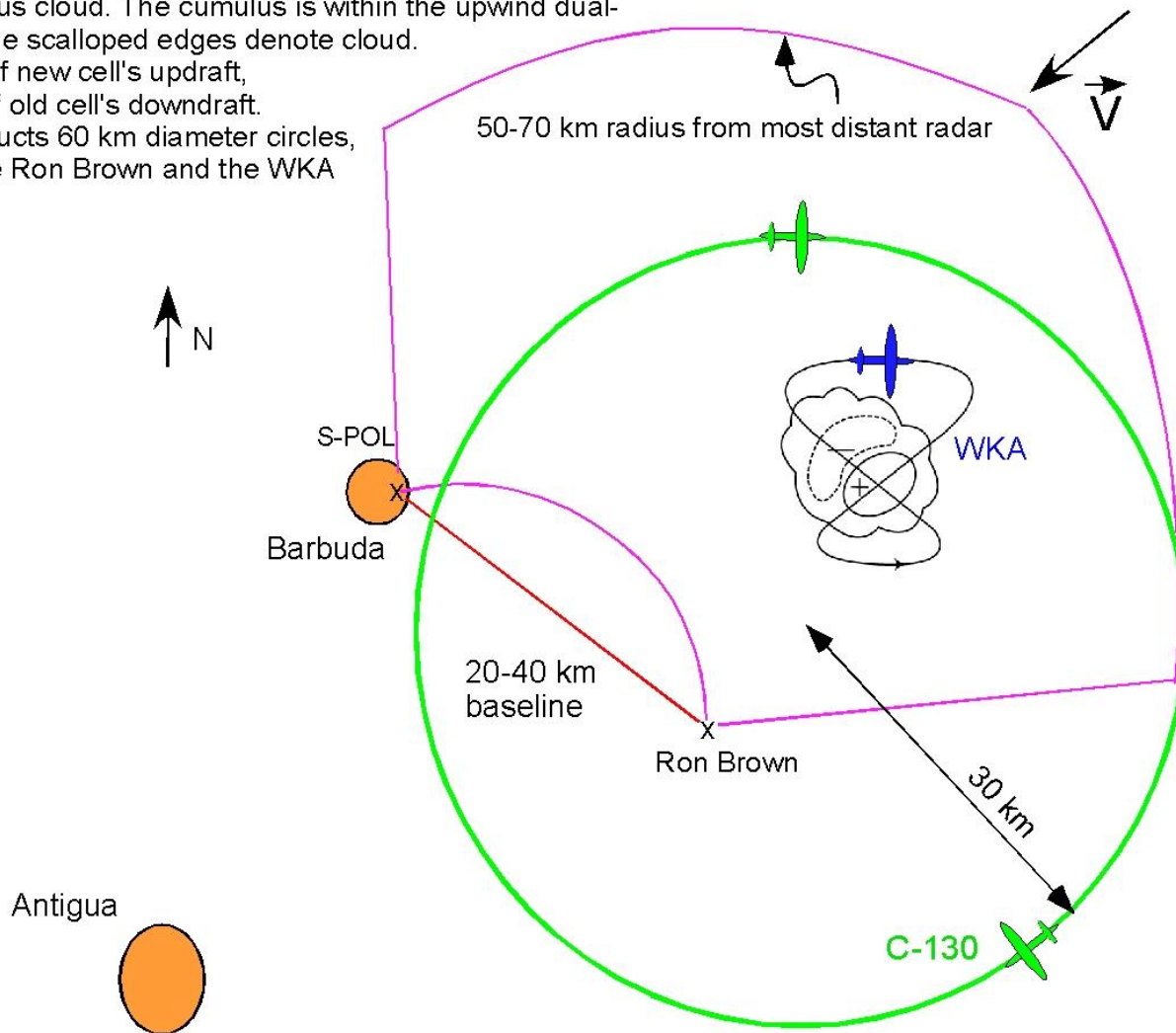


Fig 4.a. The WKA conducting a microphysical flight pattern (e.g. Rosette) through a cumulus cloud. The cumulus is within the upwind dual-Doppler lobe. The scalloped edges denote cloud. + is the outline of new cell's updraft, - is the outline of old cell's downdraft. The C-130 conducts 60 km diameter circles, keeping both the Ron Brown and the WKA within the circle. Antigua



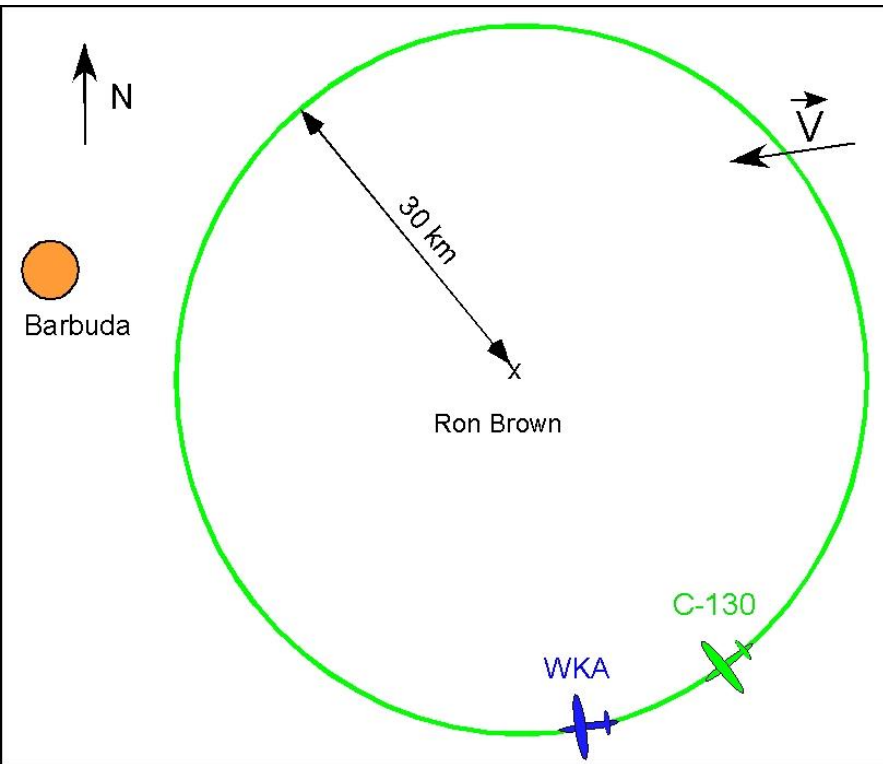


Fig 4.b. The WKA and C-130 track the same big circle. WKA measurements focus on WCR VPDD, thermodynamical variations around the cloud, and upper cloud DSDs. The C-130 measures in situ, within the WCR transects.

