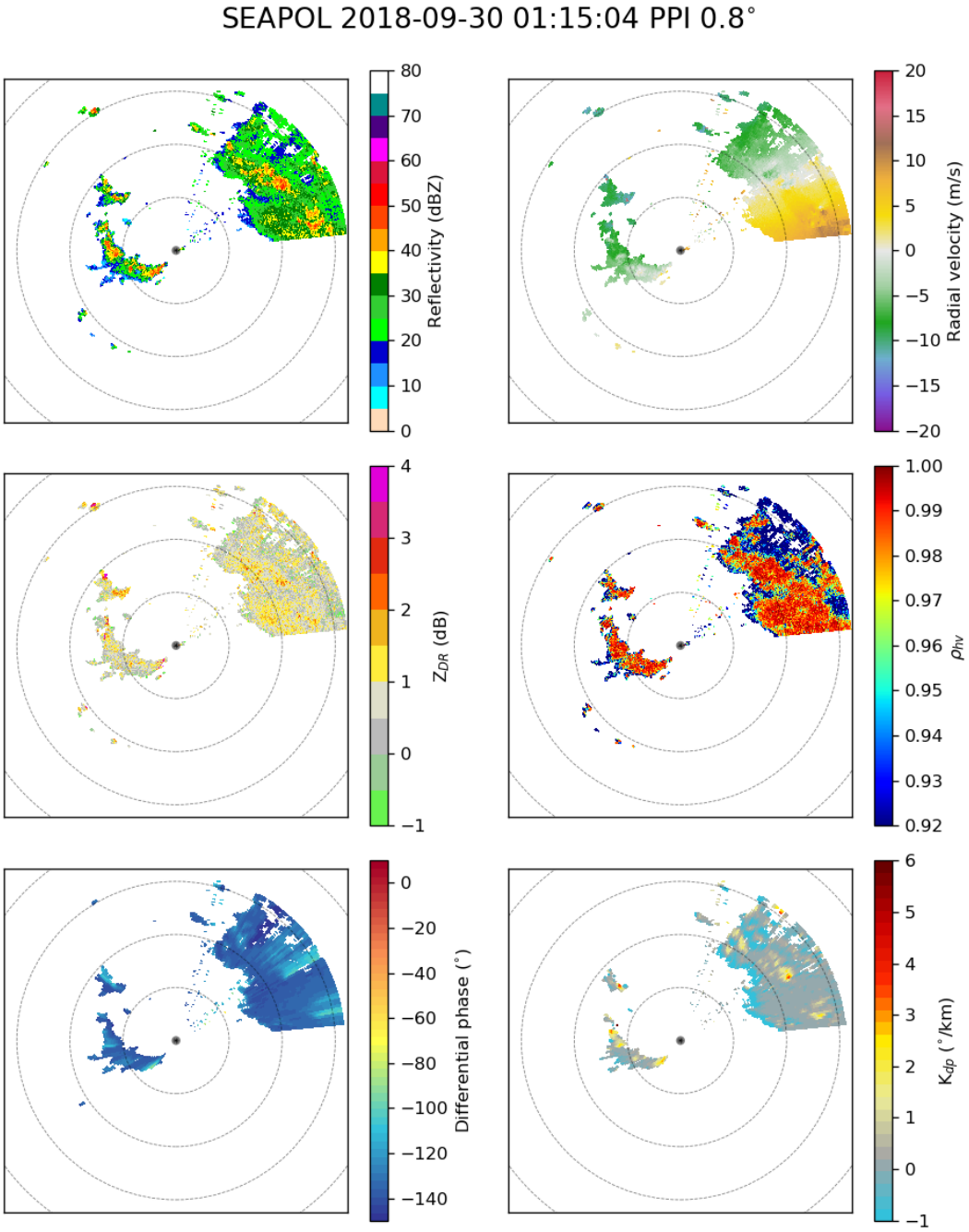
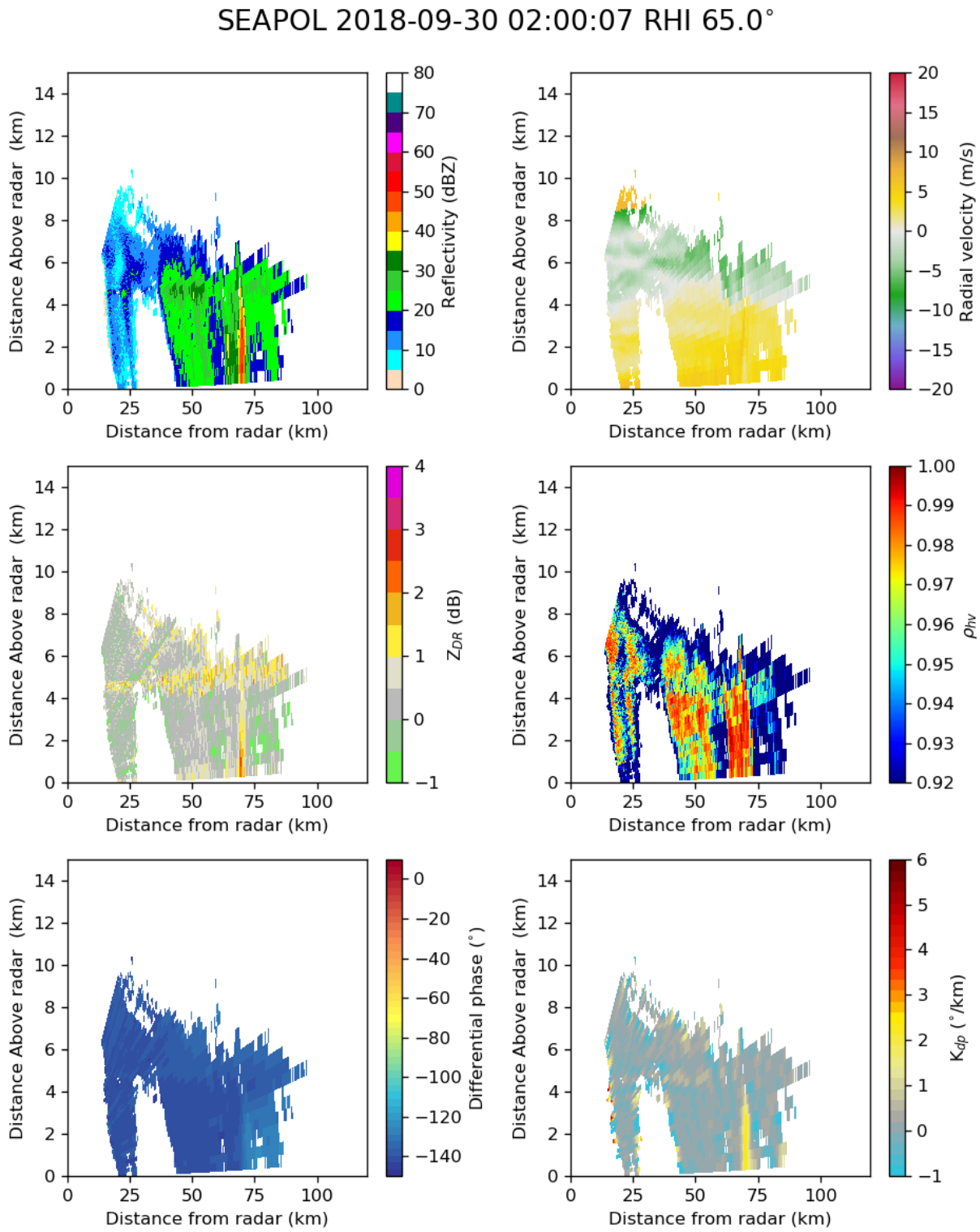
20180930
Morning Shift (9A-1P L)
Ben Trabing

0130 – The rainband of what will be Typhoon Kong-Rey is getting closer to the radar and we have a smaller scale band to our southwest. RHI's will be attempted at some point in the next several hours when we get closer to the rainband.



0150 – Rainband is around 60-80km away, RHI scheduled.

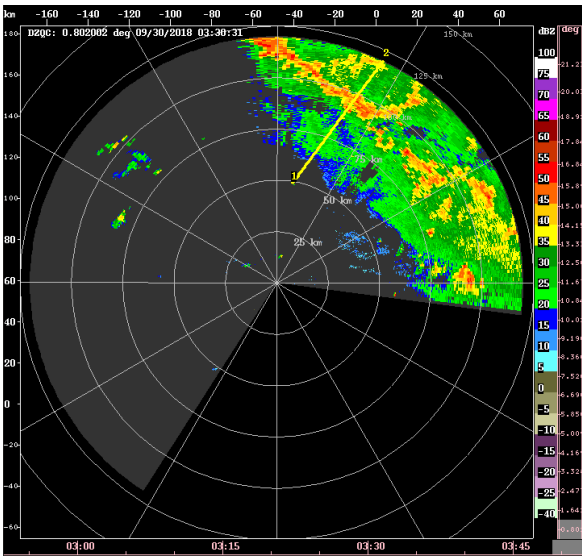


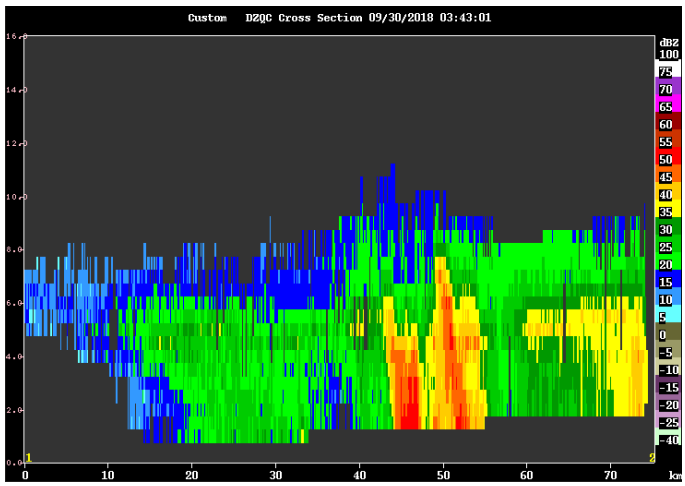
2000 – There is a large portion of stratiform rain as the deep convection decays, although there are still pockets of deep convection within the stratiform precip. High DBZ values are only found at the base of the deep convective clouds from large oblate droplets. A brightband can also be seen over a large area of clouds.

0230 – Continue FAR PPI scans since convection near radar is relatively shallow and is topped by the highest elevation angle.

Afternoon Shift (12P-9P L)
Weixin Xu

0330 – Radar running in FAR PPIs. The most outer edge of the TC rain band appear 75-100km to the north/northeast of the radar. The rain band includes convective lines embedded in broad stratiform precipitation, which has echo-top height up to 9-10km. Most of the embedded convection has only moderate convective intensity (35dBZ up to 6-7 km). Looks like convective lines are leaded by stratiform precipitation, but stratiform rain ahead of the convective lines formed from decayed convection earlier on.

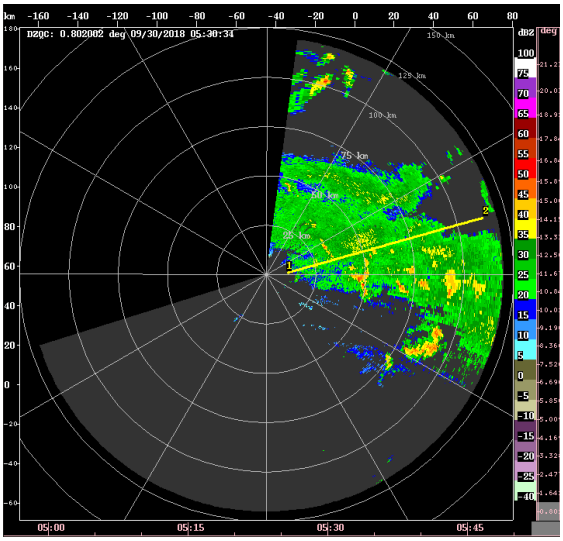


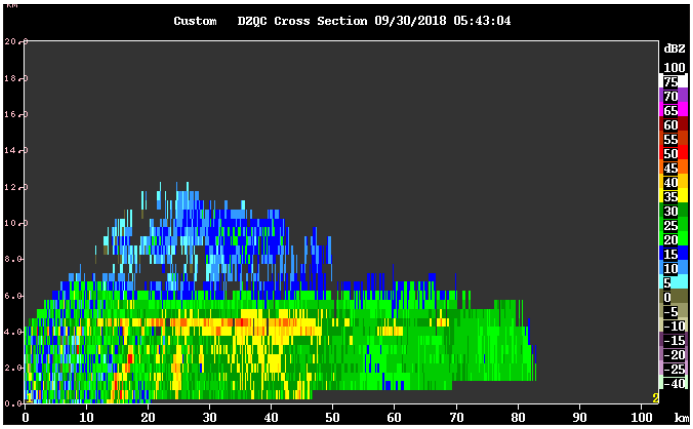


0430 – Radar is down due to missing channel of the Slip Ring again.

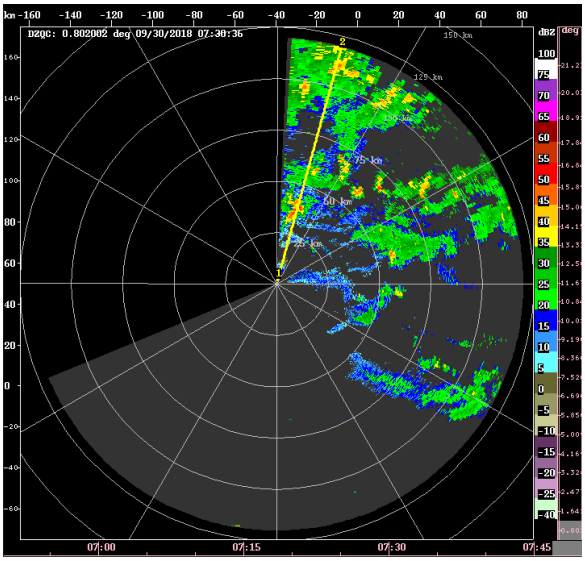
0530 – Radar resume operating, after replacing the bad channel with a spare one in the slip ring. Test with a SURVEILLANCE scan, which looks good. Now run in the FAR PPIs.

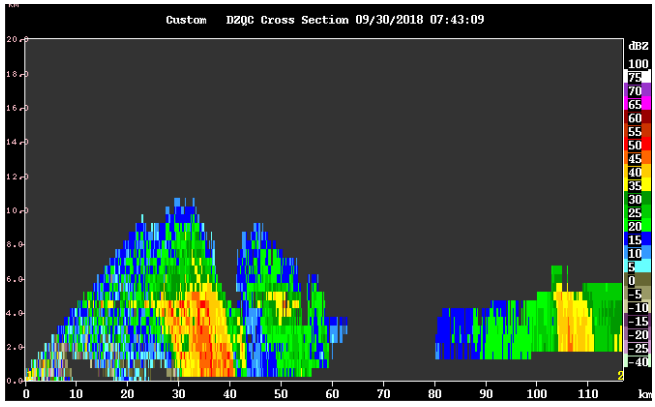
0600 – Keep scanning in FAR PPIs. The operation areas are largely covered by stratiform precipitation, as most embedded convection already decayed in the past hour.. Bright band signature is obvious in these precipitation areas.



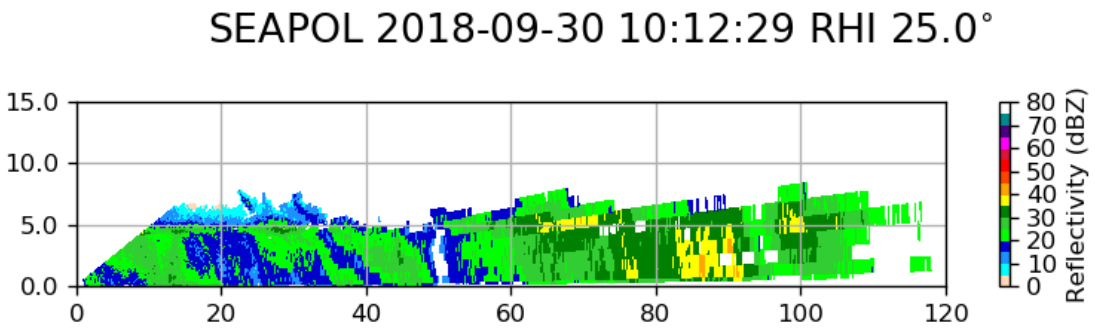


0745 – Still run in the FAR PPIs, as convection decayed and no new development.





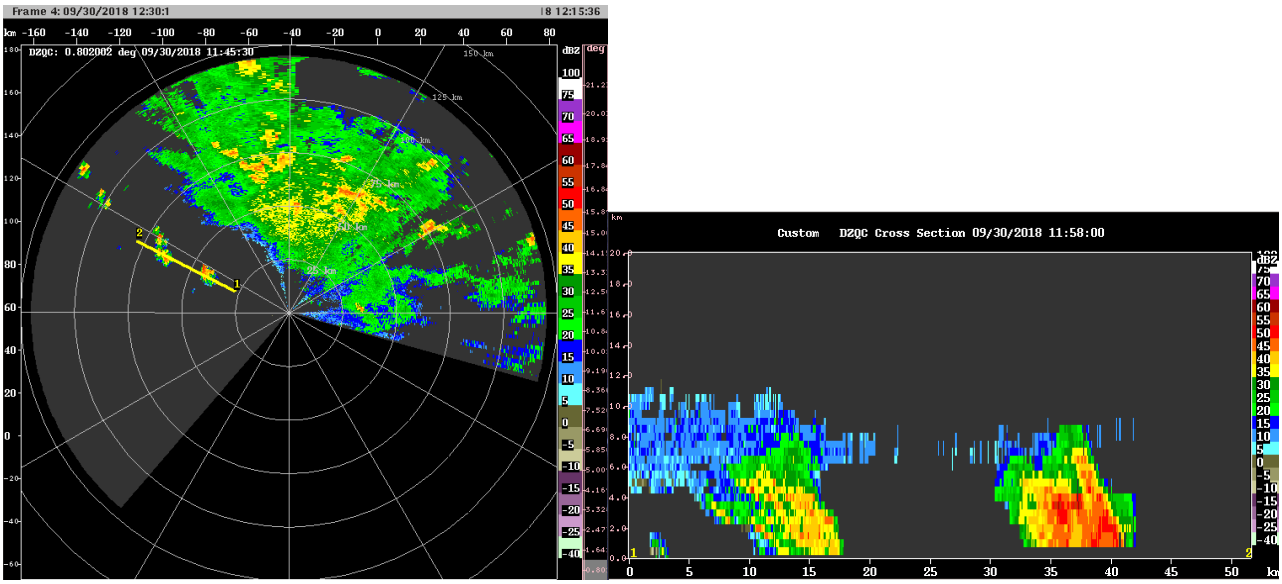
1000 – GPM overpass at 1002UTC. RHIs (4 from 0 to 30 azimuth degree) are conducted toward the GPM overpass section (north-northeast). Only stratiform precipitation is present at this time.



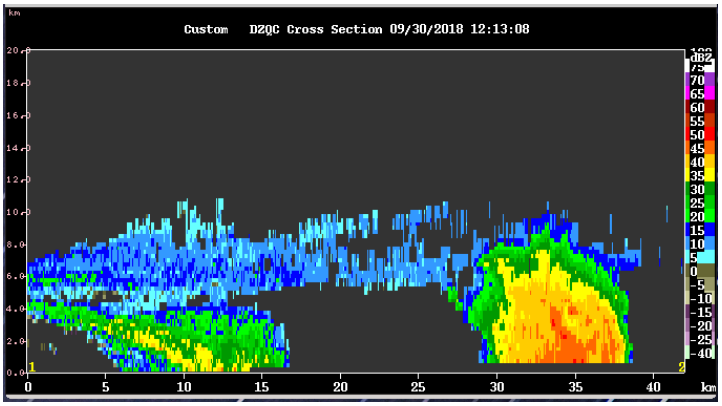
1145 – More stratiform precipitation moves into the radar domain from the TC outer rain band. Bright band signatures are very strong in these precipitation areas.

Night Shift (9 pm – 4 am LT)
Naufal Razin

1200 – Young shallow convection developed to the northwest of the ship, southwest of the large stratiform area. Could this trigger new convection ahead of the stratiform precipitation?



1225 – One shallow cell dissipated while the other grew slightly larger



1245 – Shallow convection has completely dissipated – booooo :(
1322 – Stratiform precipitation with embedded shallow convection has been persisting for a while, located mostly to our north and east
1745 – Stratiform precipitation has been persistent to our north, over 25 km away. PISTON Far PPI scans have been going on for the whole time. The few short-lived embedded reflectivity cores have been reaching an average altitude of 6 km.

Morning Shift (4A-9A L)
Ben Trabing

1900 – lots of stratiform precip to the north with some areas of higher reflectivity embedded. More smaller scale convective scales are to the south, with one cell reaching altitudes >8 km although most around 5 km.

2000 – IC lightning was observed by sounding crew.

2125 – The area of precipitiation to the north is moving closer with very few areas of deep convection. Stratiform rain is more prevalent with an inversion from longwave cooling at the top of the stratiform layer likely inhibiting convective growth within the band above 5 km which is also suggested by the 17Z sounding.

2215 – Rainband is getting closer, will schedule and RHI over next hour as it continues to approach and the ship moves northwest.

2300 – RHI finished and is shown below, return to FAR with surveillance intermittent. As previously mentioned its primarily stratiform with convective cells embedded.

SEAPOL 2018-09-30 22:56:07 RHI 350.0°