

EW_Drift-Faraday-Imaging December 2015 Campaign Report

This report corresponds to the campaign from December 9 to December 13, 2015 and it will show RTIs and results of two sub-experiments: EW_Drift and Imaging. The experiment was adjusted due to problems with one of the transmitters.

EW_DRIFT-IMAGING:

December, 9:

- _ Start of the campaign at 18:30.
- _ Falls of transmitters at 20:00, 20:30 and 22:00.
- _ Spread F from 19 to 24:00 hours.
- _ % Operation/5.5h: 87.87

Log:

09 Dec 19:22 Interference observed at the B channel of EW_Drift experiment.

Staff in charge

08-20: A. Valdez. 20-24: A. Belleza.

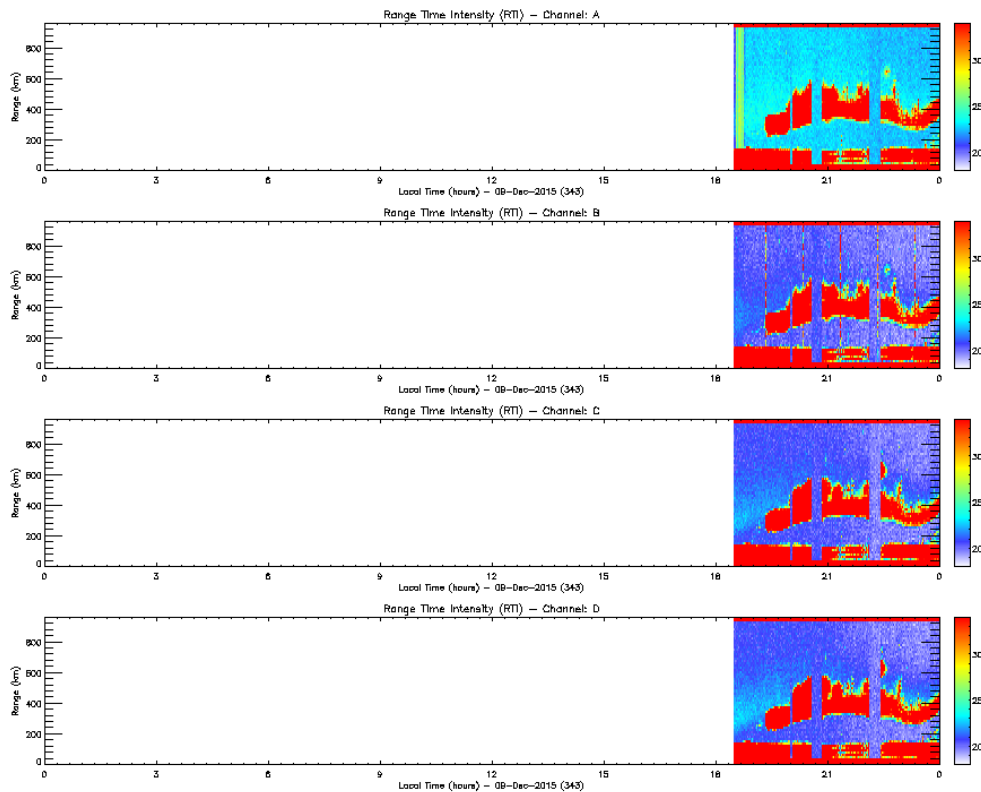


Figure 1.Rti EW_DRIFT 2015-12-09.

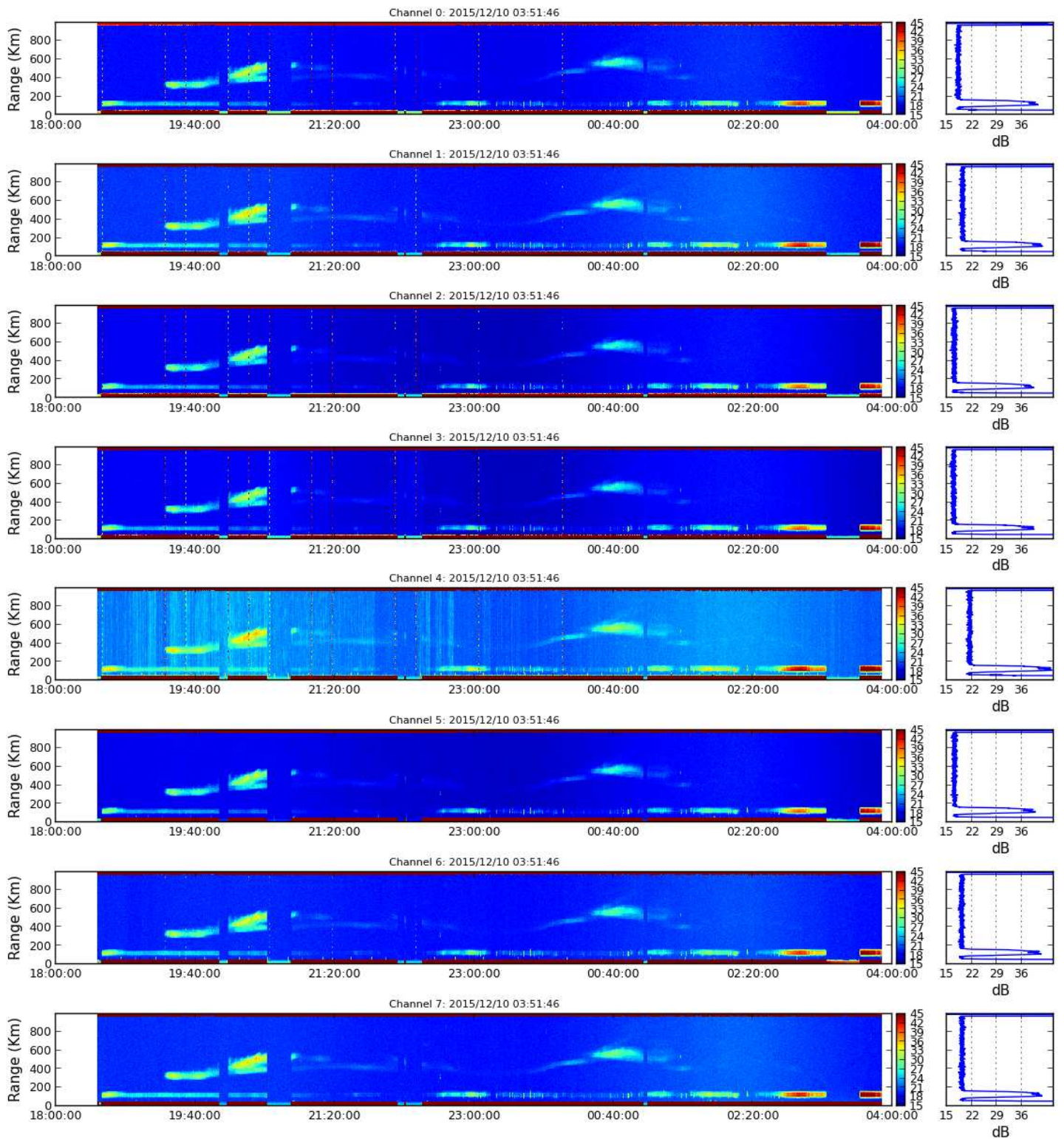


Figure 2. RTI IMAGING From 2015-12-09 18:00 to 2015-12-10 04:00.

Drifts obtained:

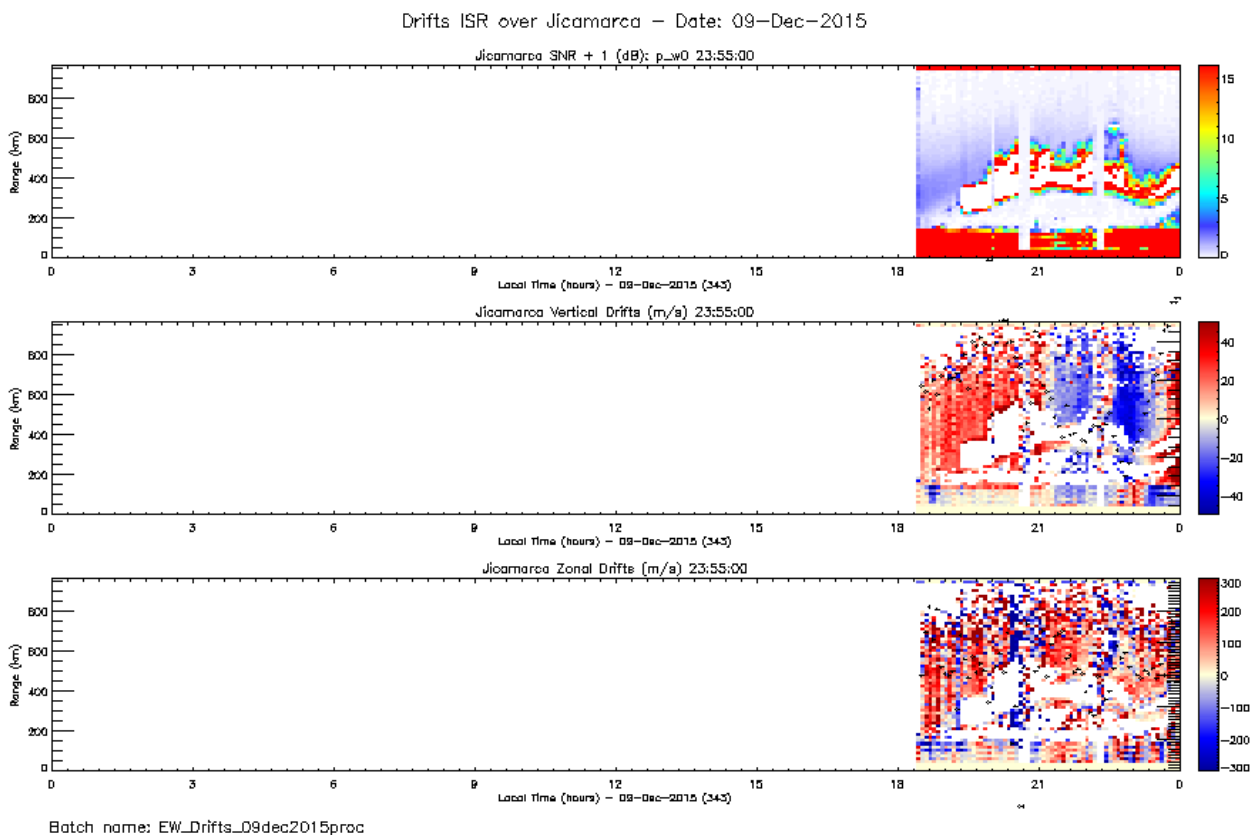


Figure 3. Drifts 2015-12-09.

December, 10:

- _ Falls of transmitters at 01:00, 12:27, 17:56, 20:12, 22:10 and 23:50
- _ Spread F from 00:00 to 04:00 hours and from 19:20 to 22:40 hours.
- _ VIPIR system was adjusted to produce less interference.
- _ Lunar event close to midday.
- _ % operation/24h: 92.36.

Log:

- _ 10 Dec 13:30 Not noise in Ch B.
- _ 10 Dec 14:19 On VIPIR with new IPP.
- _ 10 Dec 20:00 Strange interference at B channel of ew_drift experiment (Vipir was turned off) .
- _ 10 Dec 22:10 Transmitters were off to change the B field amplifier of the Imaging experiment.
- _ 10 Dec 23:50 Full checking of B Imaging channel finished.

Staff in charge

00-08: A. Belleza. 08-20: P. Córdor. 20-24: I. Manay.

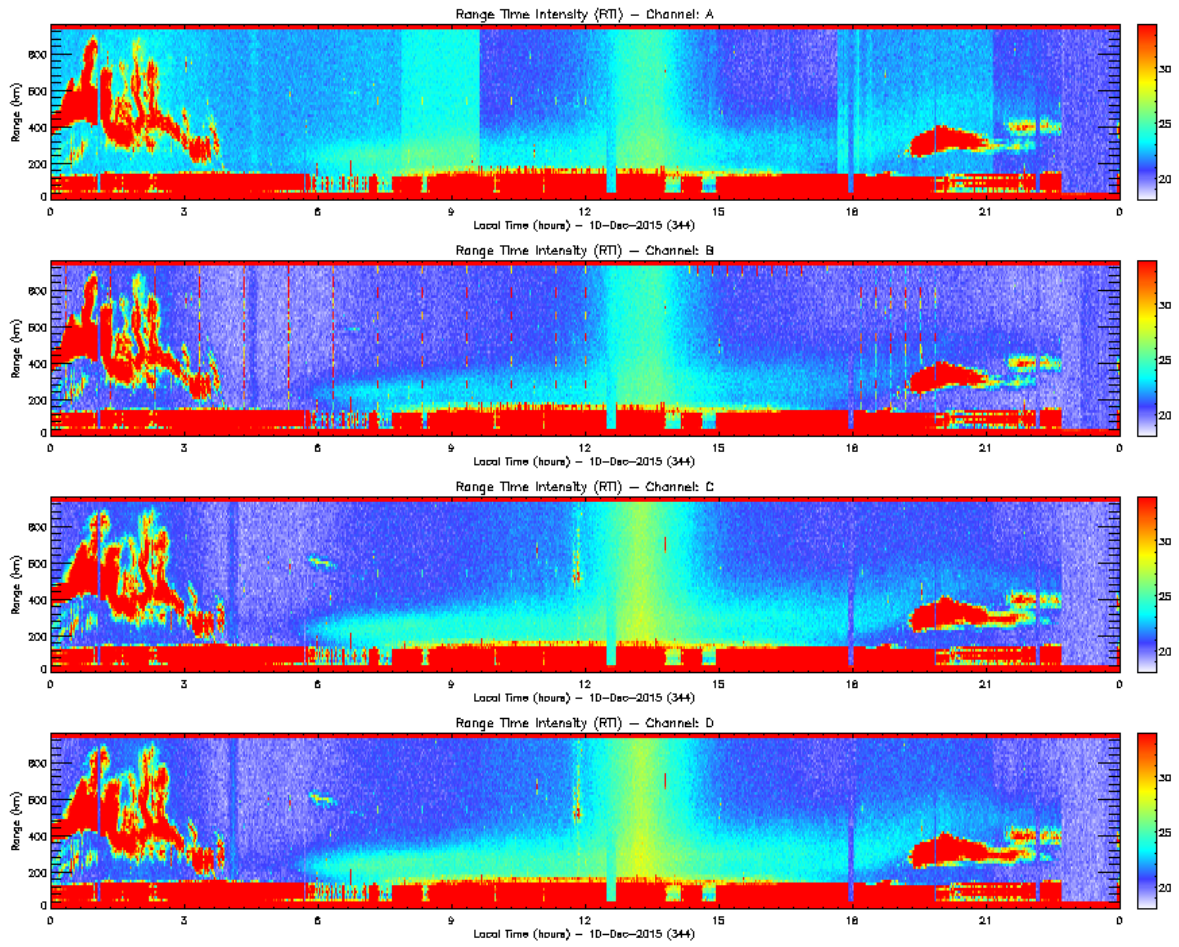


Figure 4. Rti EW_DRIFT 2015-12-10.

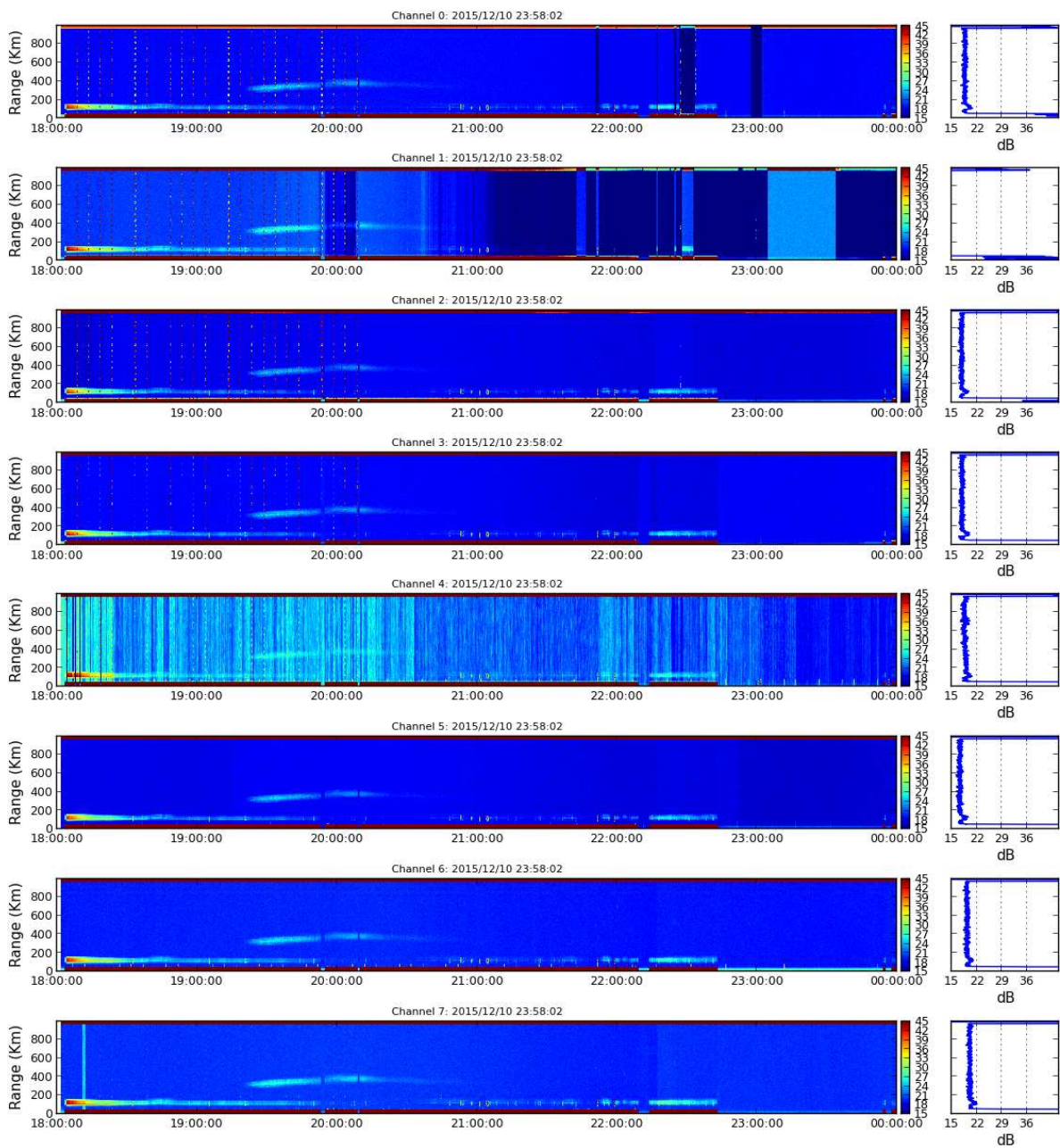


Figure 5. Rti IMAGING 2015-12-10 18:00-24:00.

Drifts obtained:

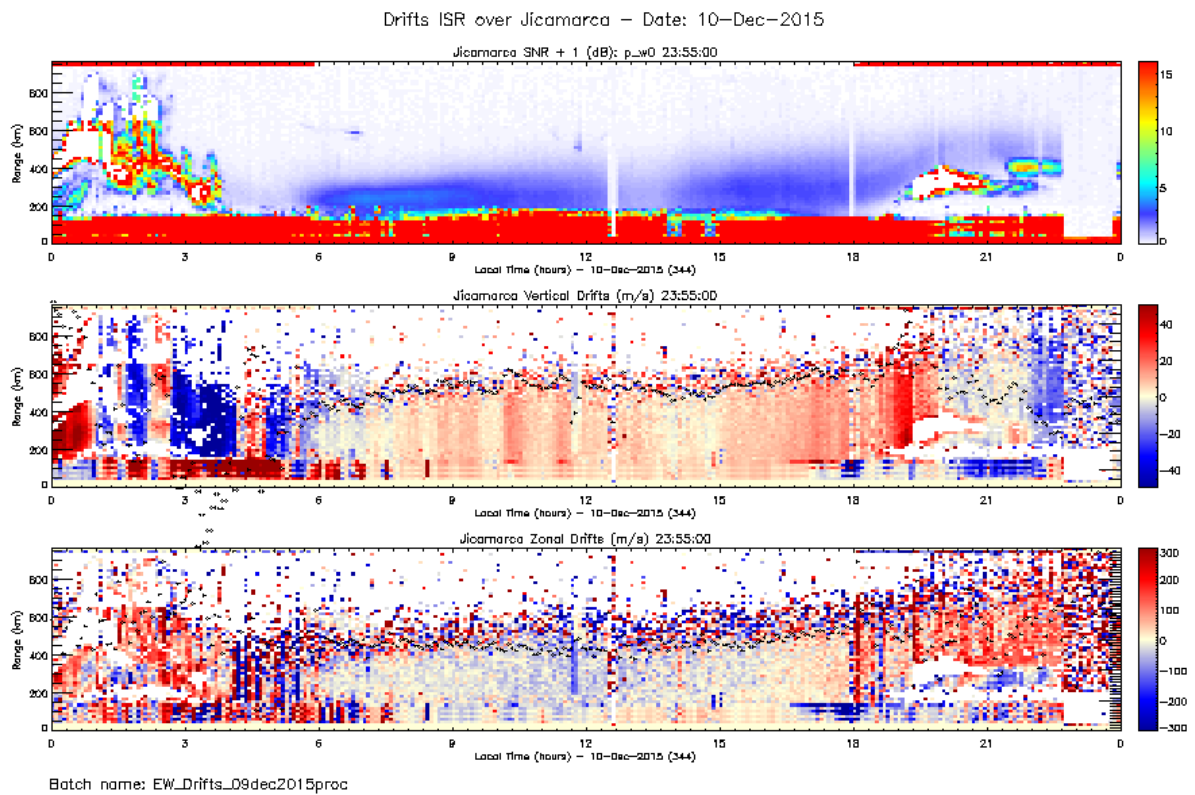


Figure 6. Drifts 2015-12-10.

December, 11:

- _ Falls of transmitters at 12:17, 13:40
- _ Spread F from 00:00 to 03:00 hours and from 19:30 to 24:00 hours.
- _ % operation/24h: 95.63

Log:

- _ 11 Dec 09:00 Vipir was turned on after corrections.
- _ 11 Dec 12:17 Transmitters were off to replace TR and spark-gaps.
- _ 11 Dec 13:40 Transmitters were off to correct noise level at B channel of Imaging experiment.

Staff in charge:

00-08: I. Manay. 08-20: J. Oscanoa. 20-24: A. Valdez.

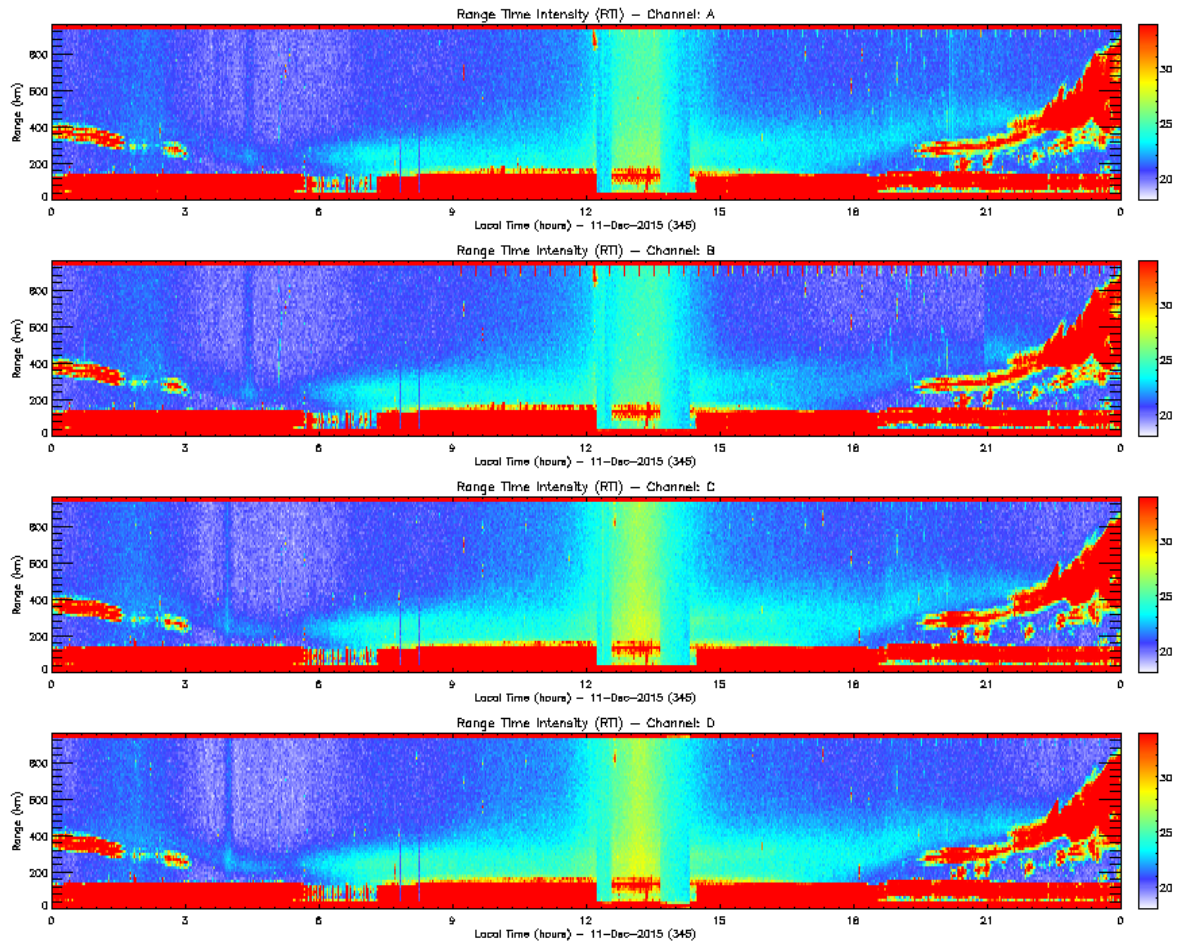


Figure 7. Rti EW_DRIFT 2015-12-11.

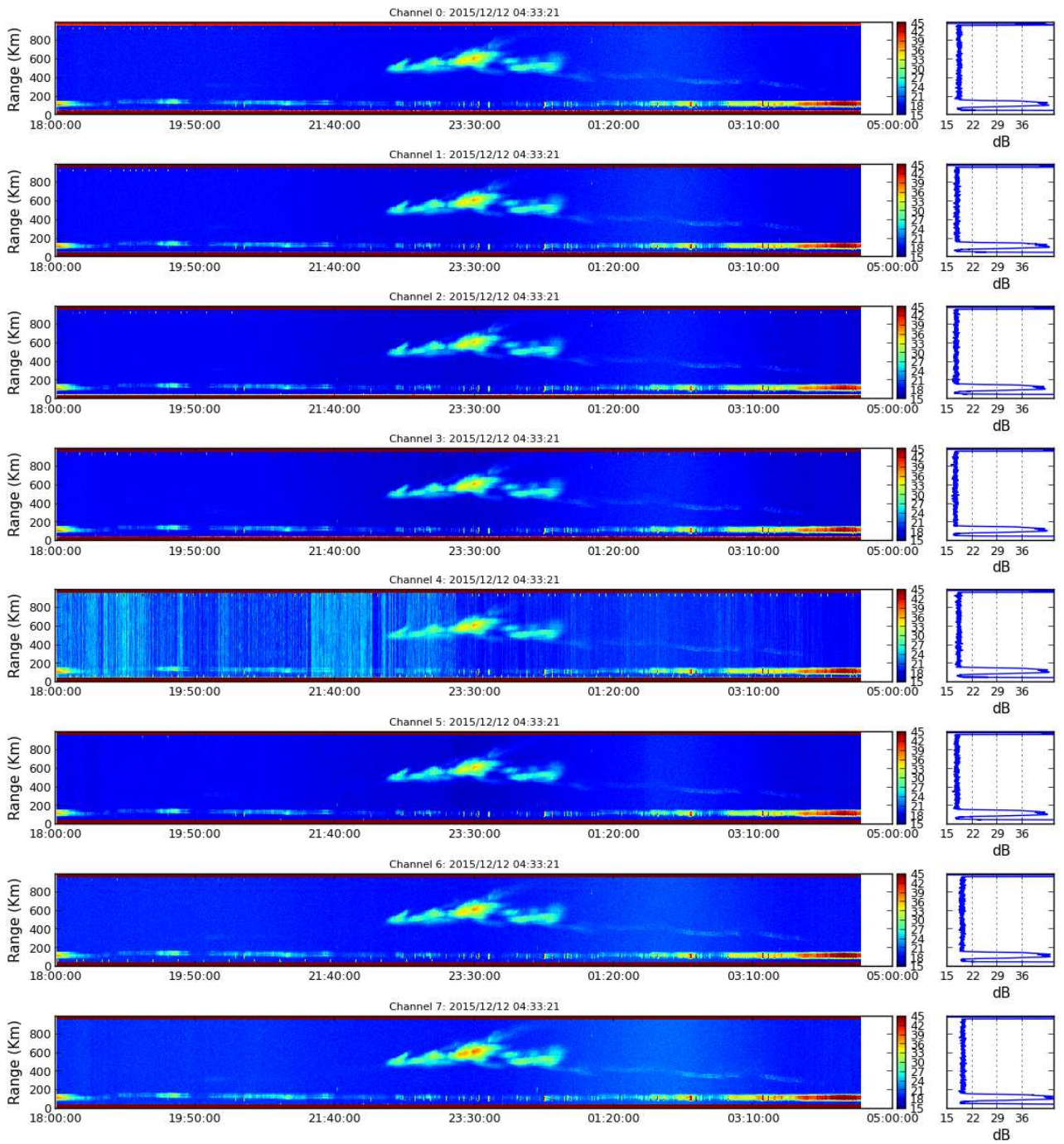


Figure 8. Rti IMAGING From 2015-12-11 18:00 to 2015-12-12 05:00.

Drifts obtained:

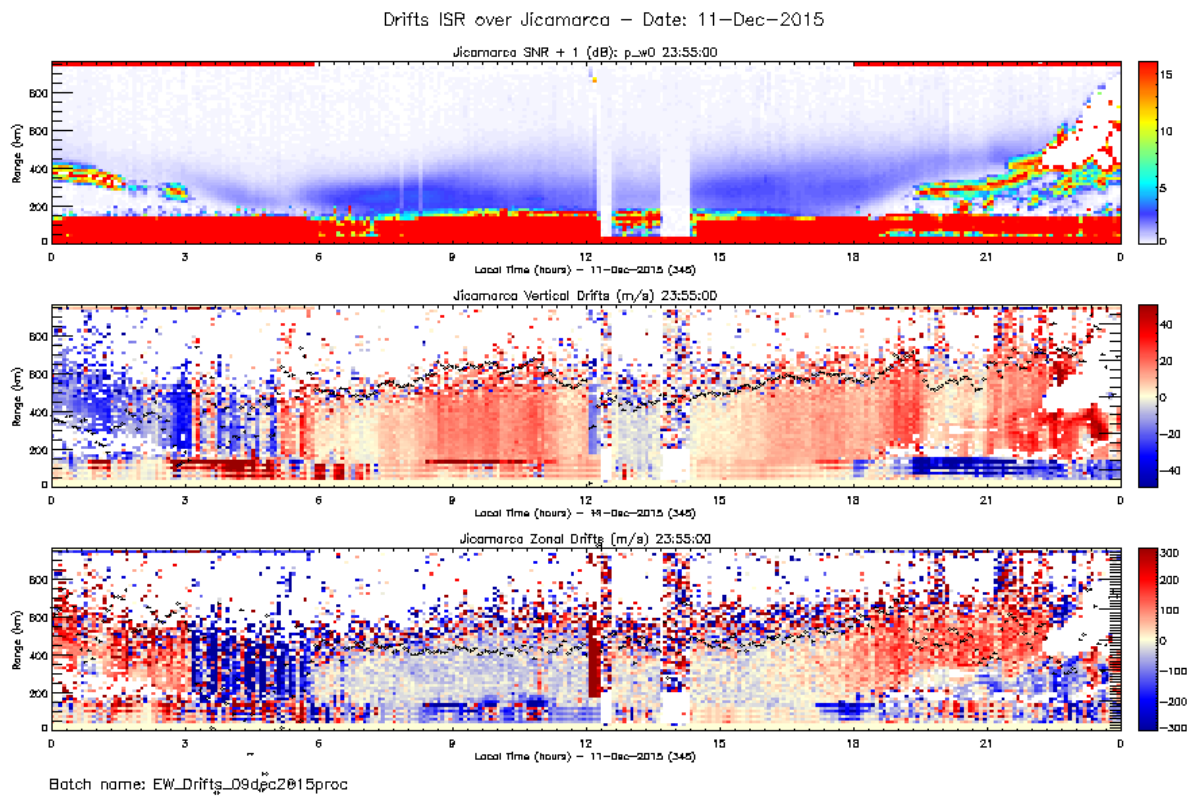


Figure 9. Drifts 2015-12-11.

December, 12:

_ Falls of transmitters at 07:17

_ Spread F from 00:00 to 04:00 hours and from 19:40 to 24 hours.

_ Lunar event close to 13:00.

_ % operation/24h: 99.93

Log:

_ No error from transmitter or acquisition was reported.

Staff in charge:

00-08: A. Valdez. 08-20: D. Lume. 20-24: P. Condor.

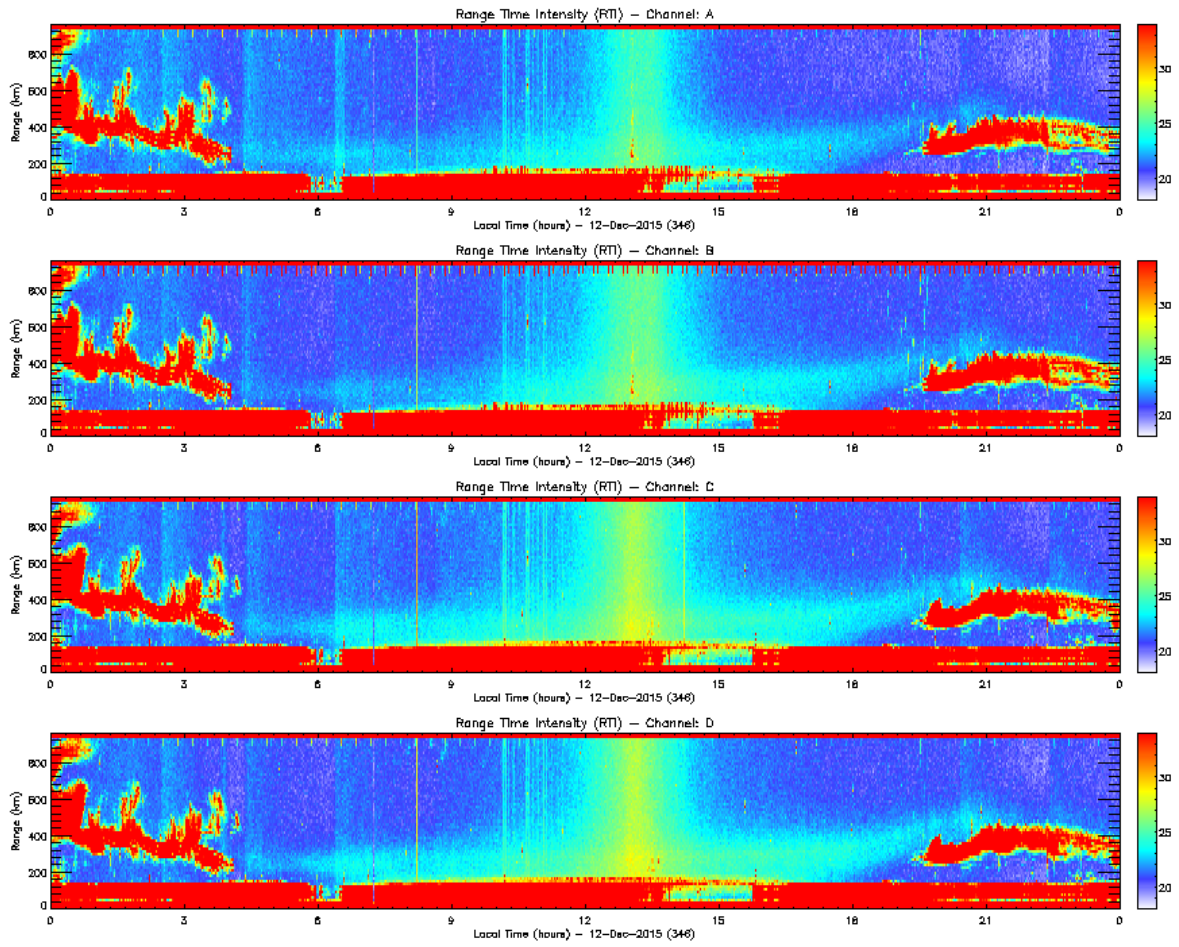


Figure 10. Rti EW_DRIFT 2015-10-12.

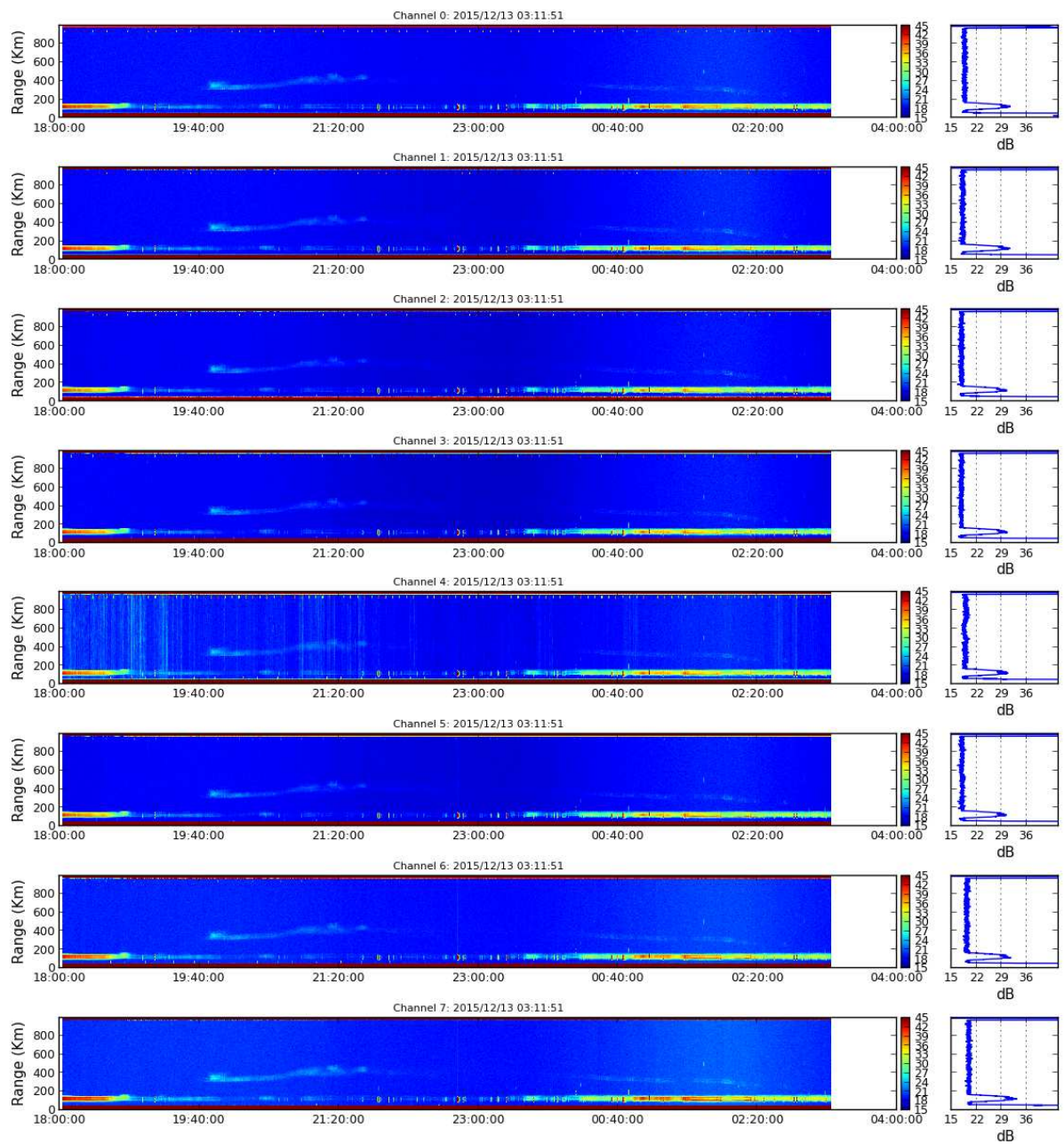


Figure 11. Rti IMAGING From 2015-12-12 18:00 to 2015-12-13 04:00.

Drifts obtained:

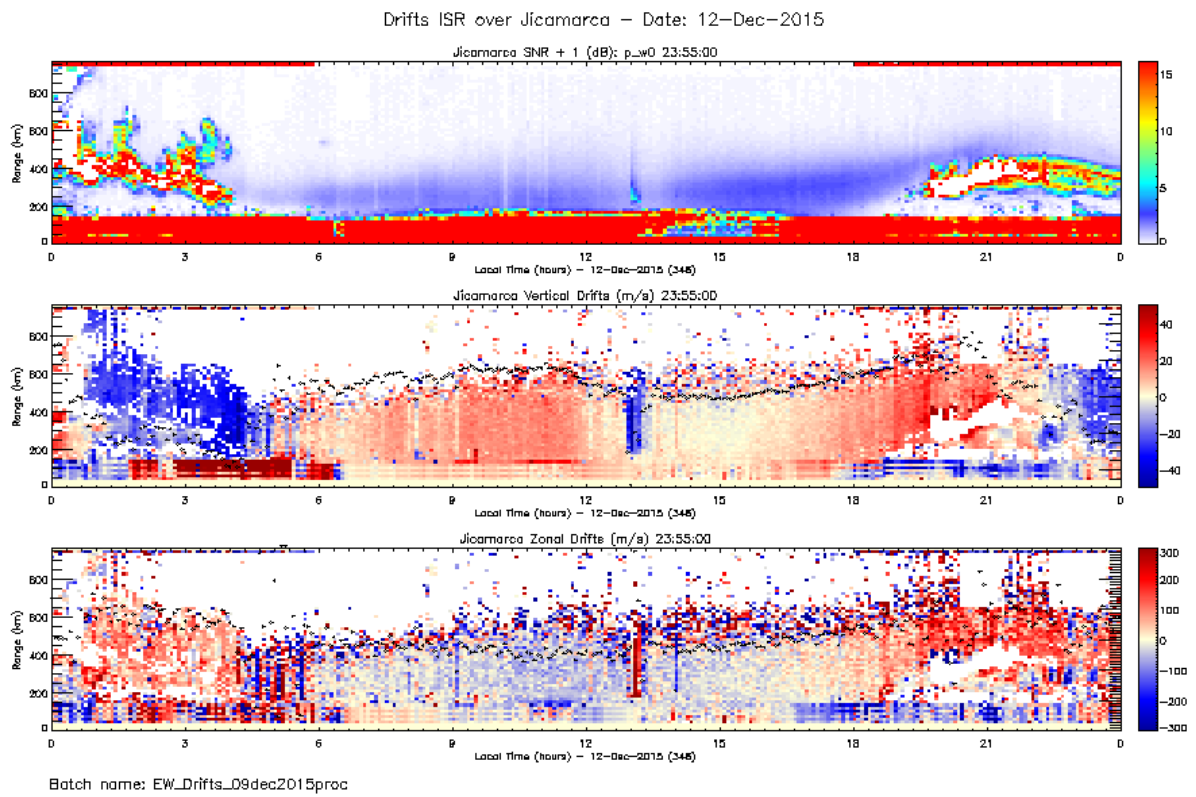


Figure 12. Drifts 2015-10-12.

December, 13:

_ Falls of transmitters at 07:17

_ Spread F from 00:00 to 02:20 hours and from 19:30 to 20:00 hours.

_ Lunar event close to 14:20.

_ % operation/24h: 100

Log:

_ No error from transmitter or acquisition was reported.

Staff in charge:

00-08: P. Condor. 08-20: M. Urco.

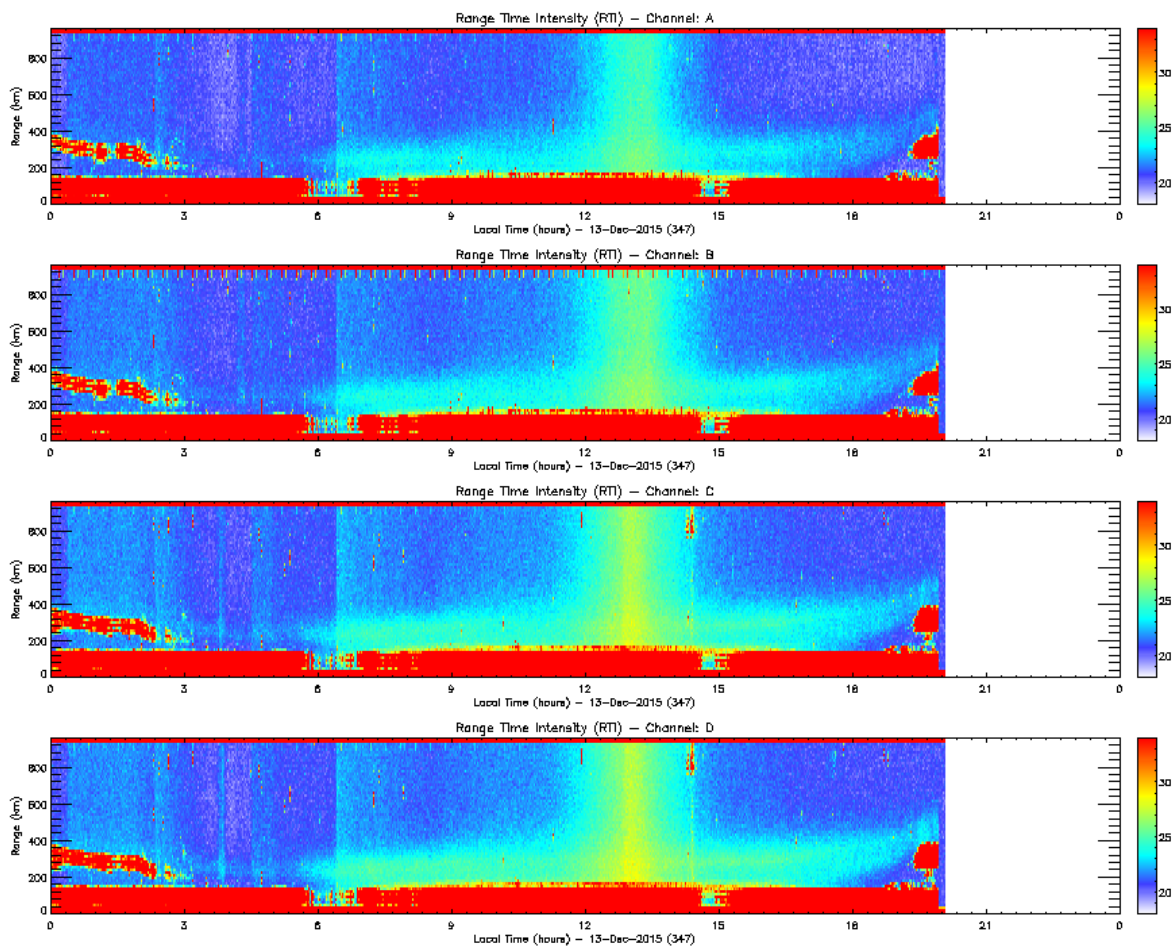


Figure 13. Rti EW_DRIFT 2015-10-13.

Drifts obtained:

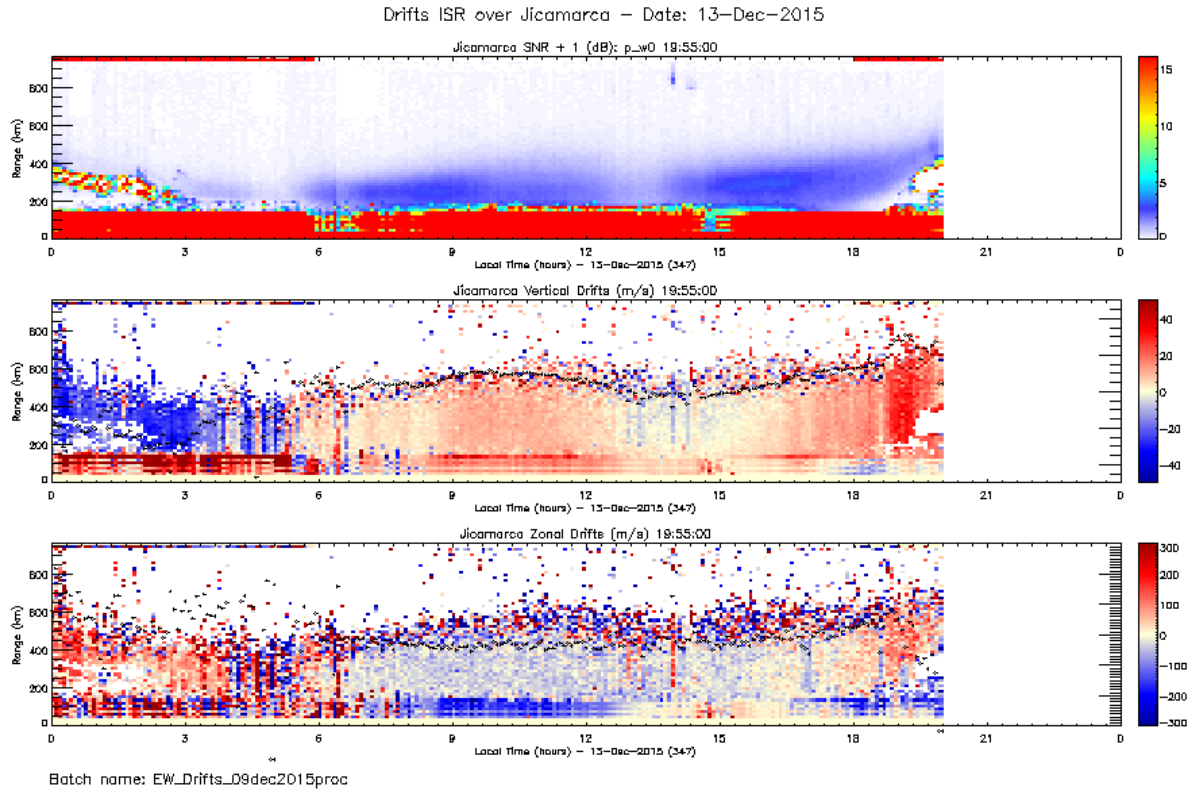


Figure 14. Drifts 2015-12-13.

Conclusions

Vipir and digisonde systems are synchronized but they do not start at the same time. The next ISR manual will include a procedure to correctly synchronize these systems.

Annex:

Sky noise for December 11, 2015:

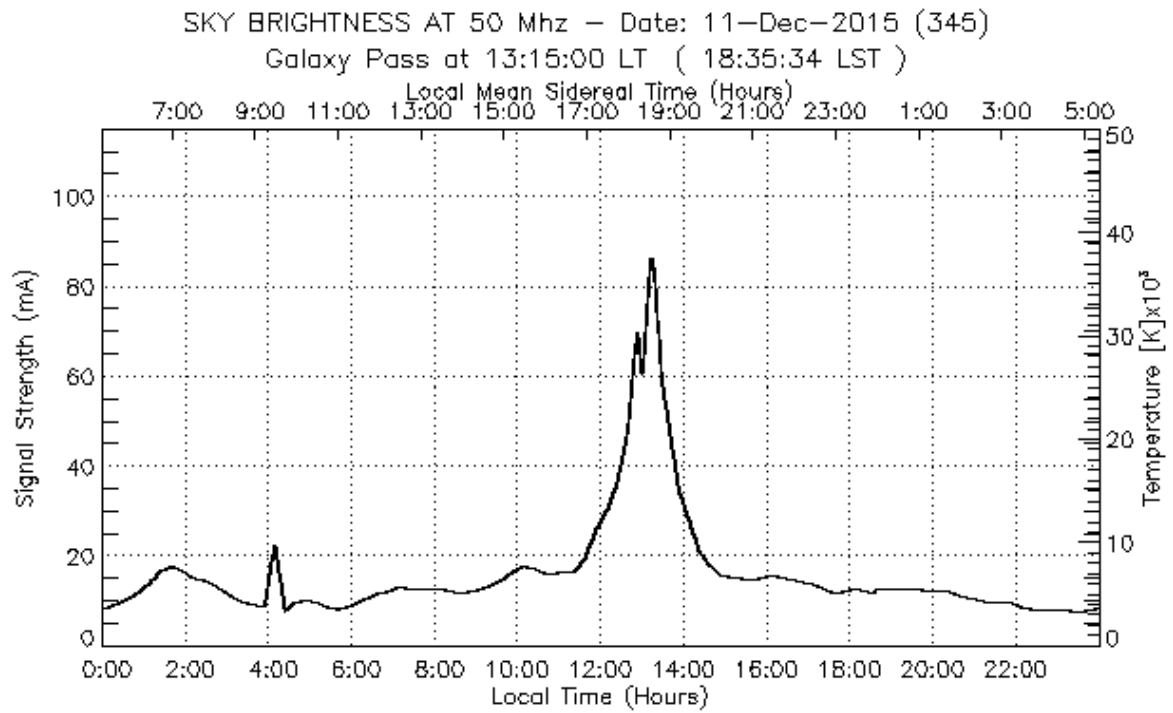


Figure 15. Sky noise.

Switchyard configuration (Regular connections at switchyard were changed due to problems with one of the transmitters)

EW_Drift + Faraday
 Diciembre2015, Setiembre2015,
 Agosto2015, Julio2015

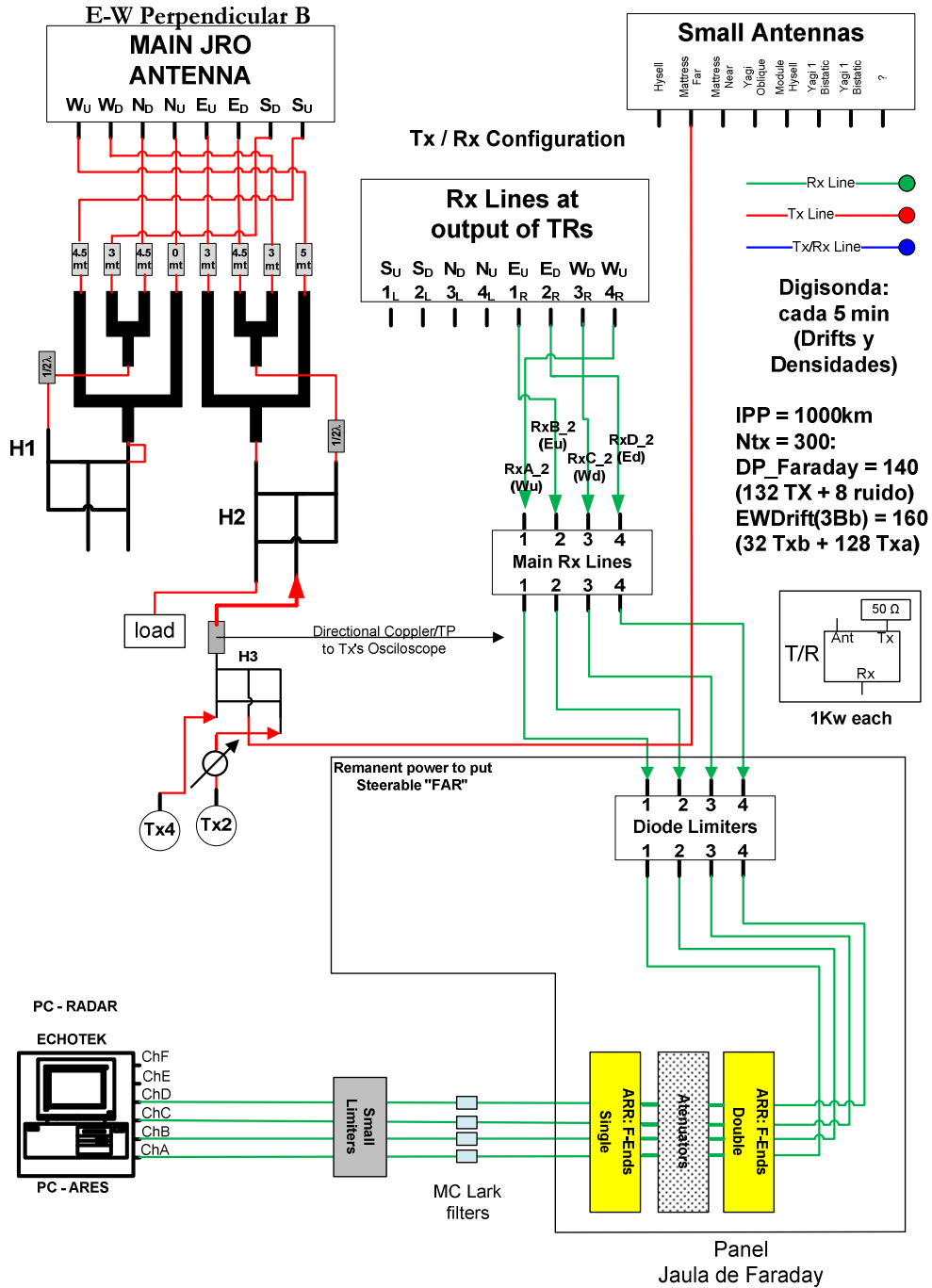
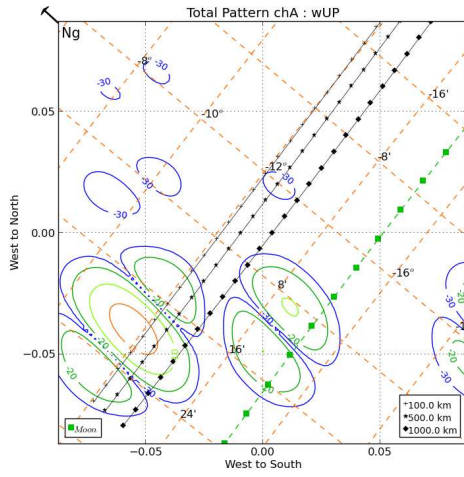
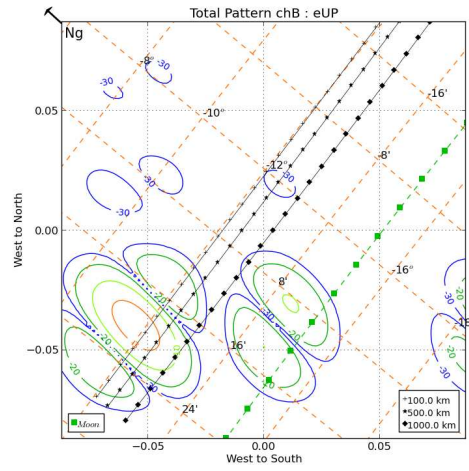


Figure 16. Antennas pattern EW_Drifts: Ch A and Ch B.

Antenna pattern

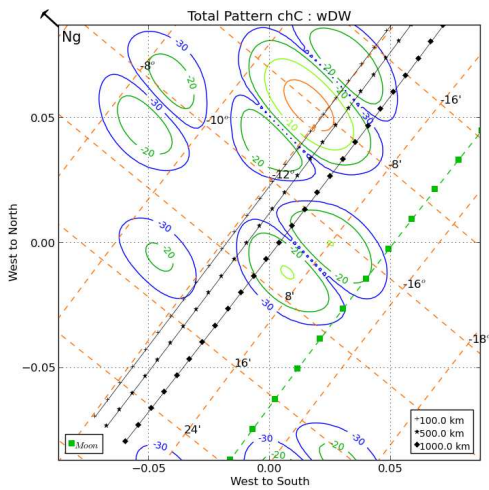


Over Jicamarca: 09-Dec-2015 (343)

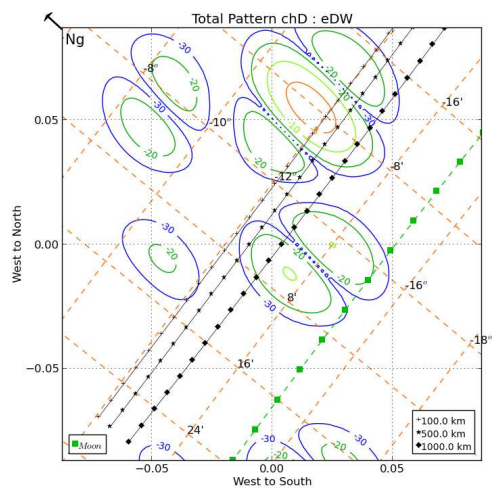


Over Jicamarca: 09-Dec-2015 (343)

Figure 17. Antennas pattern EW_Drifts: Ch A and Ch B.

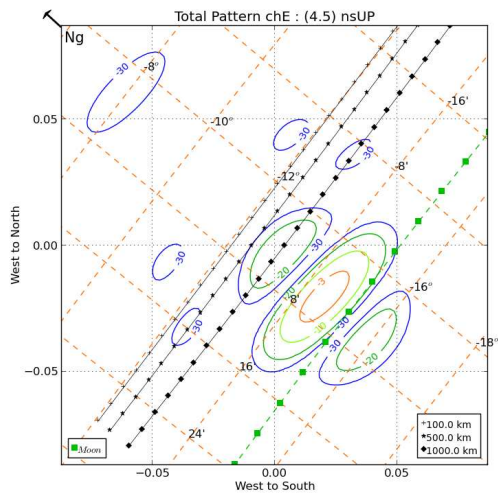


Over Jicamarca: 09-Dec-2015 (343)

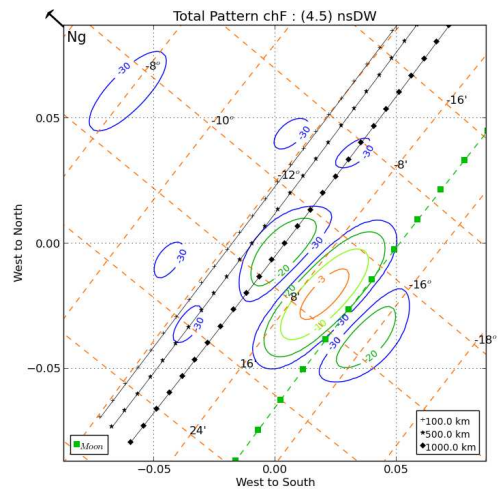


Over Jicamarca: 09-Dec-2015 (343)

Figure 18. EW_Drifts: Ch C and Ch D.



Over Jicamarca: 09-Dec-2015 (343)



Over Jicamarca: 09-Dec-2015 (343)

Figure 19. Faraday: Ch A and Ch B.