

Notes of the ILT TO Telephone conference 2015-01-29

Distribution list:

| | Organization: | Date: |
|---|---------------|-----------------|
| Author(s): Nico Ebbendorf | ASTRON | August 28, 2015 |
| Approval: | ASTRON | |

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**LOFAR Project**

Doc.nr.: LOFAR-ASTRON-MOM-099

Rev.: 1.0

Date: 17-07-2014

Class.: limited

1 Attendees

| | |
|--------------|---|
| Chair | Nico Ebbendorf |
| Notes | Nico Ebbendorf |
| Participants | DE601: Andreas Horneffer DE602: Absent (Ado Arnolds) DE603: Matthias Hoefft DE604: Christian Vocks DE605: Arpad Miskolczi FR606: Jean-Mathias Griessmeier SE607: Absent (Henrik Olofsson, Tobia Carozzi) UK608: Alan Doo DE609: Joern Kuensemoeller KAIRA: Absent (Derek McKay-Bukowski) POLFAR: Absent (Krzysztof Jahn) NL: Menno Norden, Roberto Pizzo |
| | |

2 Minutes of the Previous Telephone Conference

- No comments on previous minutes

3 Announcements

- The interim period of “Head of operations & maintenance” at the Astron Radio Observatory for Nico Ebbendorf will end this month. This include also the ILT activities. Recruitment for a new interim manager is ongoing.
- the presentations from the past ILT TO meeting are available here: http://www.lofar.org/operations/doku.php?id=ilt_to:start

4 Action Items

| Nr | Description | Assigned to | Due date | Status |
|------|---|----------------------------|----------|--------|
| 15/2 | Write rationale concerning the wish of GLOW to have read access to the LOFAR switches on the GLOW stations | A. Horneffer | 21/05 | Open |
| 17/4 | Derek will add info on the wiki about "Hunting" for RFI caused by a controller card | D. McKay-Bukowski | 29/01 | Open |
| 17/5 | Plan maintenance date for FR606 | Laurent / Henri | 29/01 | Open |
| 18/1 | Providing station health overview webpage | W.Frieswijk | 29/01 | Open |
| 18/2 | Jean-Matthias write request to R. Vermeulen for data cloning | J-M. Griessmeier | 29/01 | Closed |
| 18/3 | Menno send Derek an E-mail about the KAIRA LBA antenna configuration question | M. Norden/Derek | 29/01 | Open |
| 18/4 | In order to run station test locally, Menno will send a path with the script and documentation. Jean-Matthias will check this and get back to Menno | M. Norden/J-M. Griessmeier | 29/01 | Open |
| 18/5 | Andreas will add temp. mon. to iSTnMonitor | A. Horneffer | 29/01 | Open |
| 18/6 | Menno contact Andeas to check on the Synoptics switching | M. Norden/A. Horneffer | 29/01 | Closed |
| 18/7 | Henrik will contact Andreas directly about GLOW membership | H. Olofsson | 29/01 | Open |
| 18/8 | Evaluation of local resource availability to run int. stations in single-mode during ILT time | R. Pizzo | Cycle 5 | Open |
| 19/1 | Henri will send LBA spare parts to FR606 (Laurant) | H. Meulman | 26/02 | Open |
| 19/2 | Jean-Matthias will contact Klaas for practical network issues regarding "data-cloning" | J-M. Griessmeier | 26/02 | Open |
| 19/3 | Does Klaas have all GLOW network info/drawing? | N. Ebbendorf | 26/02 | Open |
| 19/4 | Henri will send LBA (DE602)+ LBA repair sets (DE603 + UK608) | H. Meulman | 26/02 | Open |
| 19/5 | Menno analyses Chilbolton stationtest data w.r.t. Tile #61 and #70 oscillation effects | M. Norden | 16/02 | Open |
| 19/6 | Roberto will discuss option for PVSS dat on website and a local quarry script for station health | R. Pizzo | 16/02 | Open |
| 19/7 | Roberto will clarify "Polarization leakage" issue | R. Pizzo | 16/02 | Open |

Comments

15/2: (ii) Implementing read-only access to the GLOW switches while in ILT mode requires effort from ASTRON ICT personnel; therefore, if this is implemented, it will be done after the switchover scripts have been finished, as these scripts have a higher operational necessity => *Action remains open.*

18/4: Some tests has been running but still not successful and more testing is required. => *Jean-Mathias will send Menno an account to log into the local machine.*

| Nr. | Resolution / Decision | Meeting |
|-----|--|------------|
| 1 | The director ILT will require a written request for data cloning. A permission from the ILT operations is required prior to each data cloning observation. | 2014-12-11 |
| 2 | For proposals requesting the use of the international stations in single-station mode during ILT time, it is the PI's responsibility to verify – before submitting the proposal - that local resources are available to run such projects at the international stations. In its deliberations, the LOFAR Program Committee will assume that the submission of such projects are indicating that local resources will be available to accommodate it. | 2014-12-11 |
| 3 | DE601, Rubidium/ Maser switchover: As long as we switch back to the Rubidium after using the Maser, this will not affect ILT operations. We will use the Maser only very infrequently, so Menno agreed that we will probably manage to remember to switch back to the Rubidium whenever we use the Maser. | 2015-01-29 |
| 4 | Airco unit require a complete overhaul every year including a check on the coolant level | 2015-01-29 |

5 Station Roll Out

POLFAR

- Site preparation:
 - Borowiec and Baldy are flattened and drainage is applied
 - Lazy still to be executed
- Station layout design:
 - for all tree stations done
 - Cabling layout to be executed for all tree stations
- Procurement:
 - 80% of all parts are ordered and in production or else proposals are requested
 - Parts delivered: EPS parts, station cabinets, RCU's, JTB, Rubidium clock, network components
- HBA assembly study:
 - 3 options are studied

6 Station statuses

6.1 Dutch Stations

- The LOFAR area encountered some periods with gale warning. Although strong wind with high peaks were measured over several days, no major damage was caused.
- The “wind stoppers” at the end of the S-hooks of the HBA anchoring seems to do their job
- Stations are very wet due heavy en long periods of rain but the systems is not showing degradation at this moment
- A large mole family decided to have their camp at our core station area. This is causing more molehills then that we experiences in previous years. Some molehills caused LBA failures.

6.2 DE601 Effelsberg (Andreas Horneffer)

- General Performance:
No major issues came up, the stations seems to work as usual.
- GLOW Observing Network :
All 5 stations are regularly switched to GLOW mode. The connectivity between the interface computer and the LCU in DE604 still needs to be fixed.
- SyncOptics Boards:
As long as we switch back to the Rubidium after using the Maser, this will not affect ILT operations. We will use the Maser only very infrequently, so Menno agreed that we will

probably manage to remember to switch back to the Rubidium whenever we use the Maser.

- GLOW "Backdoor" :
The "backdoor" access to DE601 will move from lofarx to glowx (=glow601). In GLOW-mode this should also allow access to the other glow60x machines. We would like to shift the "backdoor" to the LOFAR switches from the MRV boxes to glowx.

6.3 DE602 Unterweilenbach/Garching (Ado Arnolds)

- Nothing to report, station ok
- One LBAI has been requested (mail to Henri, Dec. 22nd) => *Action 19/4*

6.4 DE603 Tautenburg (Matthias Hoefft)

- Station is performing fine and as expected.
- 2 LBA's are down and spare repair material is requested => *Action 19/4*

6.5 DE604 Potsdam (Christian Vocks)

- On December 8, the air conditioning system of our LOFAR station failed, leading the station to switch off due to overheating. We had a maintenance company at our station, but they found no issue with the airco system. However, they mentioned that the interior and exterior parts of the system had different power ratings – but the station has been running with this configuration for five years. They restarted the system, and it worked for the moment.

But the overheating problem returned a short time later. We tested the system together with Menno Norden under different thermal loads. It turned out that the station could maintain a constant temperature when idling, but the cooling power was completely insufficient.

We have ordered a second company to check the airco system, and they found the coolant level significantly, about 25%-50%, too low. They found no evidence for a major leakage. This was on January 22, and the station is running normally since then.

6.6 FR606 Nançay (Jean-Mathias Griessmeier)

- Nothing to report, station ok

6.7 SE607 Onsala

- besides a few disruptive power brownouts (prompting UPS considerations), nothing to report from the SE607 station.

6.8 UK608 Chilbolton

- The station Rubidium clock developed a fault during December which was detected by ASTRON during observations in week 51. A replacement was sent and this was installed successfully. This is the second Rubidium power supply failure at UK608, which we believe may be related to repeated mini power outages we experience here. We are working to acquire a UPS for our RF cabin to attempt to mitigate this problem.
- We have been running local-time sub-band statistics on our problem HBA elements. Tiles #61 and #70 and are currently seeing no sign of the RFI issues previously reported. This has been the case since temperatures dropped here in late December as we were still seeing brief instances after further remedial work last month. We therefore expect this issue to return when the weather improves.
- LBA #84 suffered a failure of one elastic tie during early January. This was not immediately detected as the dipole remained standing. The elastic was replaced on 17 Jan.
- Temporary repairs to LBA elastics on antennas #19, #33 and #35 have been made permanent. We require a dozen more elastics to complete the work and leave us with some spares. Protective tubing has been ordered. We expect to install this in early spring ahead of the animal damage that typically occurs from mid-summer to early autumn. => *Action 19/4*
- Although we have two remote cameras pointing at the station these are too distant for us to effectively monitor the LBA in darkness. We would be interested in the results of any testing of close-range cameras and their affects on station ops.

6.9 DE609 Hamburg/Bielefeld Station

- Station survived storms without visible damage to the station itself. Minor damages to the fence have been repaired.
- Two IP cameras and a PoE-Switch were installed mid-January. Plans for archiving and webcast.
- We are currently waiting for station access via out-of-band (provided IPs, access list configuration pending).

6.10 KAIRA (Derek McKay)

- No input received

7 Questions, Issues, Remarks

Questions / comments from FR606:

- Action item 11/3 “Compile a list of commands to check station parts + Standard Procedure for LOFAR station operators to verify proper functioning of the station.” has disappeared. As suggested last time, this item should be kept open until it is done.
=> *During the ILTO meeting at Astron it was concluded that the “stationtest” which will be runned after every major repair or maintenance action, all necessary information regarding station- status and health are checked. In other words, the “list of commands to check parts” is included in the “stationtest”.*
- As discussed at the singlestation-meeting, it would be useful if we knew which antennas/tiles are broken and should not be used. The minutes of the last meeting state “PVSS data is stored in a database which require a navigator tool to show status. It is maybe possible to create a quarry script.” – should this be an action item?
=> *This is covered by action 18/1*
- How often are the cal.tables updated? How often should they be updated? used in ILT and LOCAL mode?
=> *update after major incidents such as repair, maintenance etc.*
- As we do not have an observer on duty at Nancay, we have to set up our observations in automatic mode. For this, we currently use scripts triggered by crontab. In order to avoi collisions with ongoing ILT observations, we'd need to be sure about the time when FR606 is switched to LOCAL mode. We understand that this switch is currently done manually, so that it may occur slightly later than the scheduled time. This is not a problem, but we'd have to know the maximum delay that can occur under normal conditions. For example, on Friday morning, FR606 is scheduled for switching to LOCAL mode at 09:00 UT. If we have our automatic observations starting up at 09:30, can we safely assume the FR606 is in LOCAL mode? Is 09:30 too early? Or can it be earlier?
=> *currently we do the switchover manually which has been working for most of the time without delays as for as we know. However this is not strictly planned and workload depended. An automatic switchover script is under construction and expected to be part of the planned switch-over process.*

Questions / comments from DE609:

- Are we fully operational now? If not, what are the remaining open actions?
=> *station is in test observation mode but not in cycle production observing. Missing LBA call-table (looking into the problem). Ones call tables are available the station will be taken in production observing. HBA as from next week in production observing.*
- According to Roberto, we can expect regular stand-alone time from Feb 6th on. Is that still the plan?
=> *Yes except for LBA, this require a call-table first*

- How do we proceed with RFI testing our cameras?
=> *Menno Norden and Science-support are looking at the measurements and will be in contact with Joern Kuensemoeller.*
- When can we expect the full Handover documentation?
=> *DDP is not complete yet. Some documents are still required and we would like to be complete including a accepted call-data. We are aiming for a delivery in February.*

Questions / comments from DE601:

- Adding temperature monitoring of the TBB boards to iStnMonitor is still on my ToDo list. (But not with high priority).
- Apparently the change to the station software 2.4.0 is coincident with an increase in polarization leakage seen in pulsar data. (Both in data taken with the LOFAR core and in data from single stations.) Is there any news about this?
=> *During the discussion it was found out that this leakage phenomena might have a relation with the X and Y call-tables which might have changed during the Cobalt update. Roberto will look further into this problem with Michiel Brentjens (action 19/7)*

8 AOB

9 Date of next conference

Schedule for ILT telephone conferences in 2015:

- Thursday, January 29
- Thursday, February 26
- Thursday, March 26
- Thursday, April 23
- Thursday, May 21
- Thursday, June 25
- Thursday, July 23
- Thursday, August 27
- Thursday, September 24
- Thursday, October 22
- Thursday, November 26
- Thursday, December 17