



LOFAR NEWSLETTERS JULY-AUGUST 2017

Previous LOFAR newsletters are collected [here](#).

Announcements:

A. Deadlines

The Cycle 9 proposal submission deadline will be on Wednesday, 13 September 2017, 12 UT (noon).

B. Documentation

- A *LOFAR Quick Start Guide* is now available on the [ASTRON Website](#). The guide aims to provide a succinct and to the point overview of various aspects of LOFAR, supplemented by the most relevant links to external, more detailed information. The guide is specifically aimed at new users, but does contain information relevant for all users of LOFAR.
- An interactive new LOFAR Array Map has been created as is available [here](#). The map gives a detailed overview of the location of the stations which comprise the International LOFAR Telescope (ILT), across the Netherlands and wider Europe. It also offers insight into the current status of individual stations and antennas.

C. Data

- It was discovered that LOFAR data taken before April 20, 2017 have wrong position coordinates for station DE605 reported in the metadata. An estimate of the effect on relevant observing modes is given at [this system note page](#).
- High amplitudes caused by payload errors are seen in 8-bit mode in sub bands in the 3rd quartile for baselines involving SE607. The Radio Observatory is currently investigating possible solutions.

Array status:

- 38 stations operational in the Netherlands: 24 core and 14 remote stations.
- 12 international stations operational: DE601, DE602, DE603, DE604, DE605, FR606, SE607, UK608, DE609, PL610, PL611, PL612.
- A new LOFAR station (IE613) has been built on the grounds of Birr Castle, located centrally in Ireland. The station has seen first light on 14 July 2017 and since then it has joined test operations. After the initial commissioning of the station, we are now ready to collect station calibration data. After the deployment of the caltables, IE613 will be included in production observations.
- The overview of non-operational antenna elements for LBA and HBA is available [here](#).
- Station calibration:
 - o COBALT delays have been implemented for both LBA_SPARSE modes on 1 August. The validity of all LBA sparse caltables available on all Dutch stations is being assessed through commissioning.

Observing System Status:

- Rebooting of COBALT nodes as well as heavy data losses for high data rate observations on CEP4 caused observing failures and delays in the exploitation of the Cycle 8 observing programme. The cause has been found and a preliminary fix has been rolled out on a subset of the system. It will be propagated to the full system after further testing at the beginning of September.
- Several Dutch stations could not operate on specific days in July-August because of the high temperatures reached within the cabinets.

Software development status (J. Annyas):

- The team focused on identifying the cause of data losses on CEP4.
- Responsive telescope experienced steady progress; the development will be completed at the end of September for the first version. The release scheduled for October rollout.
- The LOFAR LTA portal will move to a new server: a new link will be distributed. The old link will still work. No functional changes are applied.

CITT Status (E. Orru' & T. J. Dijkema)

- DPPP: a direction dependent solver is being developed by the CITT in collaboration with A. Offringa and tested by R. van Weeren and F. de Gasperin. This solver allows, while solving, to constrain the solutions. For instance applying a constraint on the TEC (e.g $1/\nu$), a constraint that forces all the data from CORE stations to have the same TEC value. This is now working as expected for multiple directions, some major improvements were made to solve anomalous TEC jumps. The solutions are written in h5parm files that can be used with apical.

- WSClean now has the functionality to use Image Domain Gridding (IDG) when IDG is available. All the known glitches have been solved and the MSMF clean is an available feature. A release will be available shortly for extended commissioning.
- Factor, the direction dependent pipeline for HBA data, is now at release 1.3. We advise users to follow the major changes on [GitHub](#)

MSSS Status (J. Broderick & G. Heald)

- The MSSS team is working towards the planned public release later this year of HBA data products at 45-arcsec angular resolution.
- Recent activities have been focused on refining the flux density scale, in particular understanding and rectifying an apparent small offset with respect to TGSS. Previous astrometric offsets of up to a few arcsec between MSSS and TGSS have now been corrected for by using the NVSS positional information from our flux bootstrapping procedure.
- MSSS science projects are continuing with the new mosaics and associated subcatalogs; a recent internal project review was conducted to ensure that the early science period (remainder of this year) for MSSS team members proceeds as efficiently as possible.

Observing Programmes

- Cycle 8 observing programme: 40% complete. The observing schedule can be found [here](#).
- Cycle 7 observing programme: 89% complete. The rest is being observed with second priority during Cycle 8.

CEP news:

- CEP4
 - See above

- CEP3:
 - Cluster info and schedule available [here](#).

Calendar next LOFAR activities:

Note: the following events are marked on an online calendar that is available [here](#).

- Next LSM's: 20/09, 18/10
(all presentations given at the LSM and video recordings are available [here](#)).
- Next Stop days: 05/09, 03/10
- Next software roll outs: 11/09, 23/10
- Next LOFAR bulletin: October 2017