

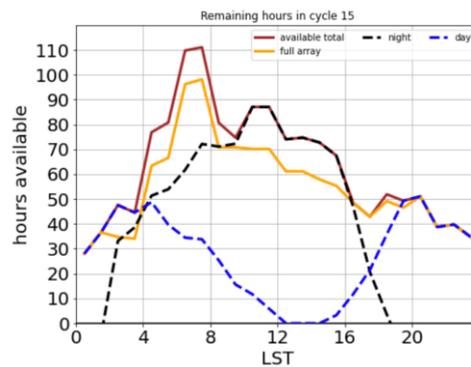


LOFAR NEWSLETTERS JULY-AUGUST 2020

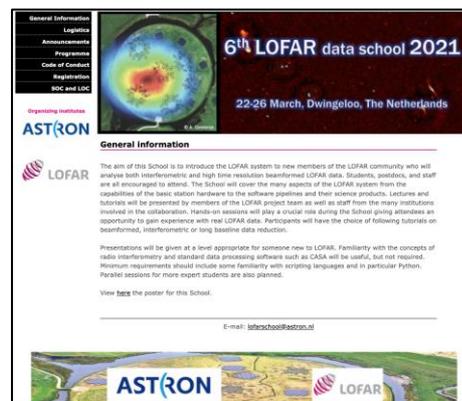
Previous LOFAR newsletters are collected [here](#).

Announcements:

- **Cycle 15 proposal call:** The submission deadline for Cycle 15 proposals will be on Wednesday, 9 September 2020, at 12 UT (noon). The call is for single cycle projects only for the observing period between 1 December 2020 and 31 May 2021. About 1509 observing hours will be available during the Cycle. The LST pressure availability plot is shown here (for more details, see the info [online](#)). Required support for the proposed projects is taken into account during allocation. Proposals should be submitted via the [NorthStar](#) online submission tool. More details about the call can be found [here](#).



- **Lofar School:** the 6th LOFAR Data Processing School has been postponed to 22 - 26 March 2021 due to the pandemic. The intention is to host it at ASTRON as a face to face event, if the pandemic situation will allow that. If not, we will revert to a remote option. Details about the school can be found at the school's official [webpage](#).



6th LOFAR data school 2021
22-26 March, Dwingelo, The Netherlands

General information

The aim of this School is to introduce the LOFAR system to new members of the LOFAR community who will analyse both interferometric and high time resolution beamformed LOFAR data. Students, scientists, and staff are all encouraged to attend. The School will cover the many aspects of the LOFAR system from the capabilities of the base station hardware to the software pipelines and their science products. Lectures and tutorials will be presented by members of the LOFAR project team as well as staff from the many institutions involved in the collaboration. Hands-on sessions will play a crucial role during the School giving attendees an opportunity to gain experience with real LOFAR data. Participants will have the choice of following tutorials on beamformed, interferometric or long baseline data reduction.

Presentations will be given at a level appropriate for someone new to LOFAR. Familiarity with the concepts of radio interferometry and standard data processing software such as CASA will be useful, but not required. Minimum requirements should include some familiarity with scripting languages and in particular Python. Parallel sessions for more expert students are also planned.

View [here](#) the poster for this School.

E-mail: lofar@school@astron.nl

Array & observing system status:

- 38 stations operational in the Netherlands: 24 core and 14 remote stations. 14 international stations in operations: DE601, DE602, DE603, DE604, DE605, FR606, SE607, UK608, DE609, PL610, PL611, PL612, IE613, LV614.
- A new international station will be built in Italy by the end of 2022.
- The overview of non-operational antenna elements for LBA and HBA is available [here](#). Currently, the fraction of non-operational components in DE602 and LV614 LBAs, and RS409 HBA exceeds 20%. The affected components at these stations are being worked on.
- No major failures were experienced on CEP hardware/software over the past couple of months. Ingests to the LTA sites had issues a couple of times due to intermittent network connections, but these did not affect observations.



Observing Programs

- Cycle 14 observations started on 1 June 2020, and will run till 30 November 2020. The observing schedule is available [here](#). So far, 66% of the observing program has been completed, with an average observing efficiency of 75%.
- During the heat waves in the middle of August, high temperatures affected a few runs. The average failure rate since the start of Cycle 14 is 6.4%.

PROJECTS

Holography (S. ter Veen)

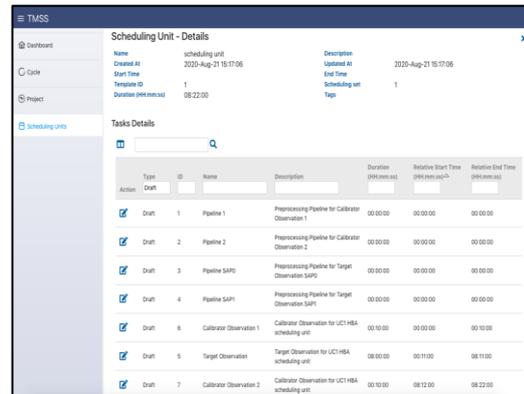
- Holography will be the new efficient way to calibrate the LOFAR stations and to monitor part of the system health.
- Commissioning is ongoing. During this phase the stability and correctness of software and solution is being tested. Several bugs have been identified and fixed.

- We expect the first corrected calibration tables for the HBA to be installed by October. LBA testing will follow after HBA is completed.

Telescope Manager Specification System (TMSS; R. Pizzo)

- TMSS (Telescope Manager Specification System) will be a brand-new software application for the specification, administration, and scheduling of LOFAR observations. It will enable the required support for LOFAR2.0 use cases, while also streamlining LOFAR operations and improving the adaptability and maintainability of software for future extensions.

- Over the past two months, the TMSS project has made progress in various areas. The web interface is now taking shape (see figure). It is already possible to view and edit cycles, projects and tasks, and soon it will be possible to specify a complete scheduling unit (the combination of observations, pipelines and quality assurance plots) in one go. Through TMSS it is now possible to run a full scheduling unit (specified in the backend) and a concrete start has been made with dynamic scheduling, a revolutionary system that will automatically determine the observing schedule.

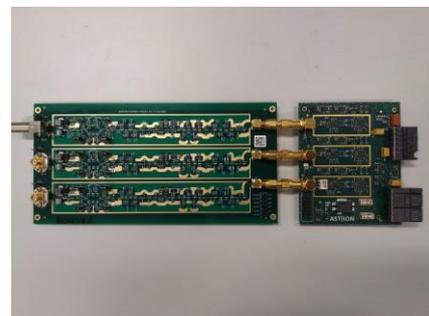


Type	ID	Name	Description	Duration (HH:MM:SS)	Relative Start Time (HH:MM:SS)	Relative End Time (HH:MM:SS)
Draft	1	Pipeline 1	Preprocessing Pipeline for Calibrator Observation 1	00:00:00	00:00:00	00:00:00
Draft	2	Pipeline 2	Preprocessing Pipeline for Calibrator Observation 2	00:00:00	00:00:00	00:00:00
Draft	3	Pipeline SAMP	Preprocessing Pipeline for Target Observation SAMP	00:00:00	00:00:00	00:00:00
Draft	4	Pipeline SAMP	Preprocessing Pipeline for Target Observation SAMP	00:00:00	00:00:00	00:00:00
Draft	6	Calibrator Observation 1	Calibrator Observation for UCI-HBA scheduling unit	00:10:00	00:00:00	00:10:00
Draft	5	Target Observation	Target Observation for UCI-HBA scheduling unit	08:00:00	00:11:00	08:11:00
Draft	7	Calibrator Observation 2	Calibrator Observation for UCI-HBA scheduling unit	00:10:00	08:12:00	08:22:00

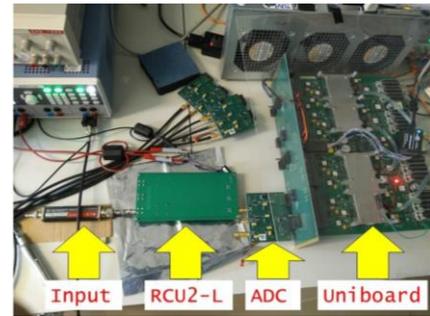
- Work is in progress to complete the observing chain by adding the specification of ingest jobs. While work will continue on dynamic scheduling, frontend, and backend, a test version of TMSS will be installed coming October for commissioning purposes. According to the current planning, TMSS will be put in production in June 2021, at the start of cycle 16.

LOFAR2.0 (W. van Cappellen)

- The LOFAR2.0 receiver units are collaboratively designed by INAF and ASTRON. The first test boards of the low band receiver from both institutes have been successfully combined.
- The prototype low band receiver has been connected to early prototypes of the other key hardware components to form the heart of the "Lab Test Station". Components from left to right: noise source (input), analog part of the receiver (RCU2L), ADC board, mid-plane and Uniboard2. Integration tests are ongoing.



- The performance of the White Rabbit clock synchronisation equipment is being tested in RS307 and RS208. This has no impact on the regular observations for which the original clock is still used.



Calendar next LOFAR activities:

The dates of LOFAR Status Meetings, roll-outs and stop days are listed in an online calendar that is available [here](#). In particular, we emphasize:

- Next LOFAR bulletin: October 2020