LOFAR NEWSLETTERS NOVEMBER-DECEMBER 2017

Previous LOFAR newsletters are collected here.

Announcements:

- The LOFAR Data Policy has been updated and is available here. In particular, note the new acknowledgement sentence that needs to be used in papers using LOFAR data.

- The RO data quality inspection page now offers more information about interpreting BST plots, as well as links to solar activity monitoring pages

- The Radio Observatory has performed an efficiency test to verify how much observing in addition to the regular Cycle schedule can be supported by the system with the help of the PIs. The results highlighted that it will be possible to offer more observing time to the community under these conditions. Details will be included in the next proposal call that will go out at the end of January.

- The Dysco data compression tool is being commissioned within the RO pipelines. Following that, it will be adopted in production.

Array status:

- 38 stations operational in the Netherlands: 24 core and 14 remote stations.

- 13 international stations operational: DE601, DE602, DE603, DE604, DE605, FR606, SE607, UK608, DE609, PL610, PL611, PL612, IE613.

- The overview of non-operational antenna elements for LBA and HBA is available [here](#).

- Station calibration:

  o IE613 now has calibration tables for all modes. Formal commissioning of the station is pending.

  o PL610: After removal of a local RFI source, RO initiated a new attempt to calibrate the station in LBA mode. The result shows that there is still too much RFI generated close to the LBA field at PL610. Further efforts are needed to reduce the RFI emissions before the station can be calibrated in the 10-90 MHz band.

  o Dutch stations: a campaign to update the HBA-low calibration tables will run this winter.

Observing System Status:

- System performance has improved as a consequence of the partition of CEP4 into nodes reserved for data writing and for pipeline processing.

Software development status (J. Annyas):

- Enabling C++ 11 in the supported software
- Investigating migration of the code to GIT
- Set up an efficient working test system for LOFAR

CITT2 Update (E. Orru', T. J. Dijkema)

- Calibration software: The direction dependent solver (DDECal) is part of DPPP and allows to solve simultaneously in multiple directions for instance for TEC, phase only, amplitude only etc. (see the DPPP wiki for more details). This is being tested and commissioned. An algorithm has been developed in order to produce TEC screens from TEC solutions. The idea is to use the TEC screens to constraint the calibration based on spacial correlations on the TEC solutions.

- Imaging software: wsclean version 2.5, released 2017-12-01, includes full support for the fast IDG GPU gridder. This is one of the major changes, making it possible to make enormous images quickly, and clean them with all of WSClean's cleaning options. It has been demonstrated to work on CEP3 and other facilities. A large development effort has gone into the implementation of the A-term.

- Pre-factor: The direction independent pipeline to calibrate the HBA has undergone a few changes: the fitting algorithm for clock-TEC separation is now more accurate. Also, work has been done to migrate from ParmDB to HDF5 / H5parm. A few more features to be implemented in the next release have been identified.

MSSS Update (J. Broderick)

- MSSS team members had a very productive busy day on December 12 as part of the 'Science at Low Frequencies IV' meeting at the University of Sydney. Significant progress was made in solving the flux density scale issue, with the scale now accurate to within 5-8% of currently available surveys. Some of the pipeline settings were also refined, resulting in higher-quality mosaics. Re-imaging and further testing continues.

Observing Programmes

- Cycle 9 observing programme: 20% complete. The observing schedule can be found here.

- Cycle 8 observing programme: 95% complete. The rest is being observed with second priority during Cycle 9.

CEP news:

- CEP4

  • System performance has improved as a consequence of the partition of CEP4 into nodes reserved for data writing and for pipeline processing.

- 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: 17/01, 14/02
  (all presentations given at the LSM and video recordings are available here).

- Next Stop days: 06+07/02

- Next software roll outs: 12/02

- Next LOFAR bulletin: February 2018