ASTRON

Netherlands Institute for Radio Astronomy

Programme:

1. *Array status & Observatory update – C. Toribio*

2. *MSSS update – G. Heald*

3. *New Pulsar Discoveries in the LOTAAS Survey – J. Hessels*

4. *Nonlinear Kalman filters for calibration in radio interferometry– C. Tasse*

Array Status

- ➢ 38 operational NL stations
  - ▪ 24 CSs
  - ▪ 14 RSs
- ➢ 8 Is

- ➢ Maintenance on the HBA has been done on 25 Dutch stations so far this year

- ➢ CS501 HBA payload errors fixed. LBA problems under investigation.

- ➢ Maintenance on SE607 finished

- ➢ DE601 maintenance ongoing.

- ➢ Updated PPS tuning software.

Overview, including IS

green: all operational --- yellow: <5% non-operational --- orange: <15% non-operational --- red: >15% non-operational

see https://proxy.lofar.eu/array_status/

Superterp
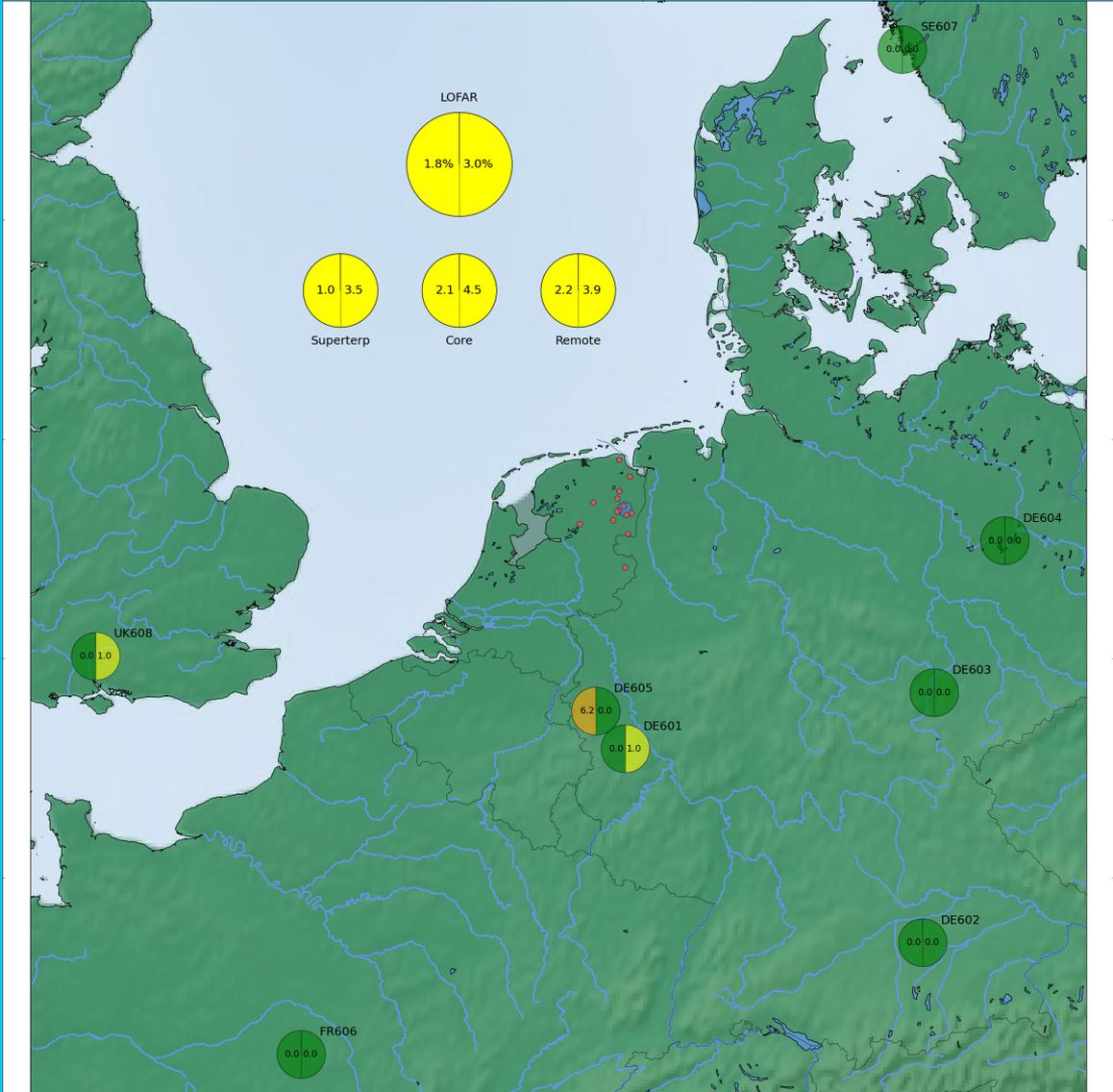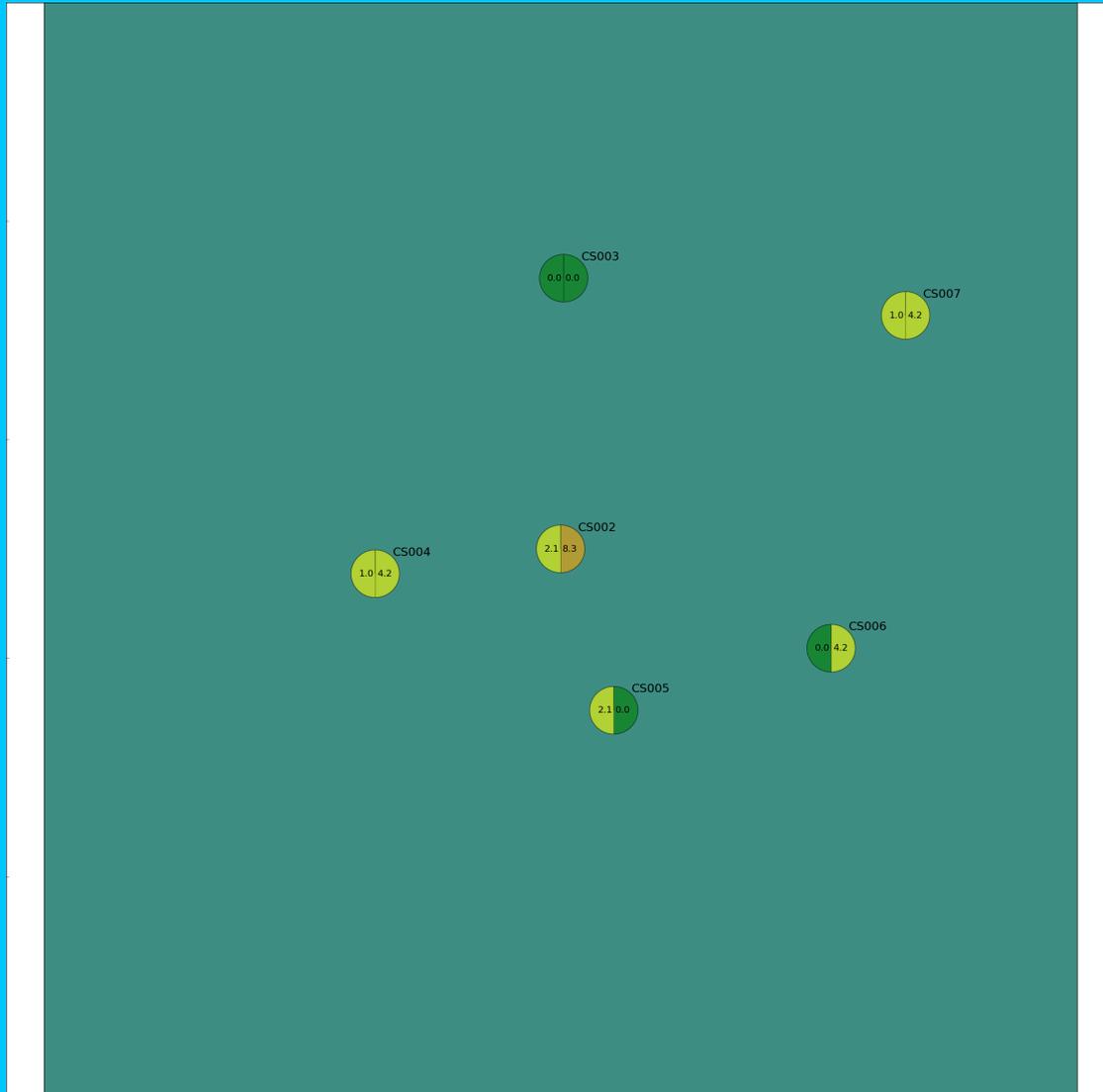
Core Stations

Remote Stations

News regarding the observing system
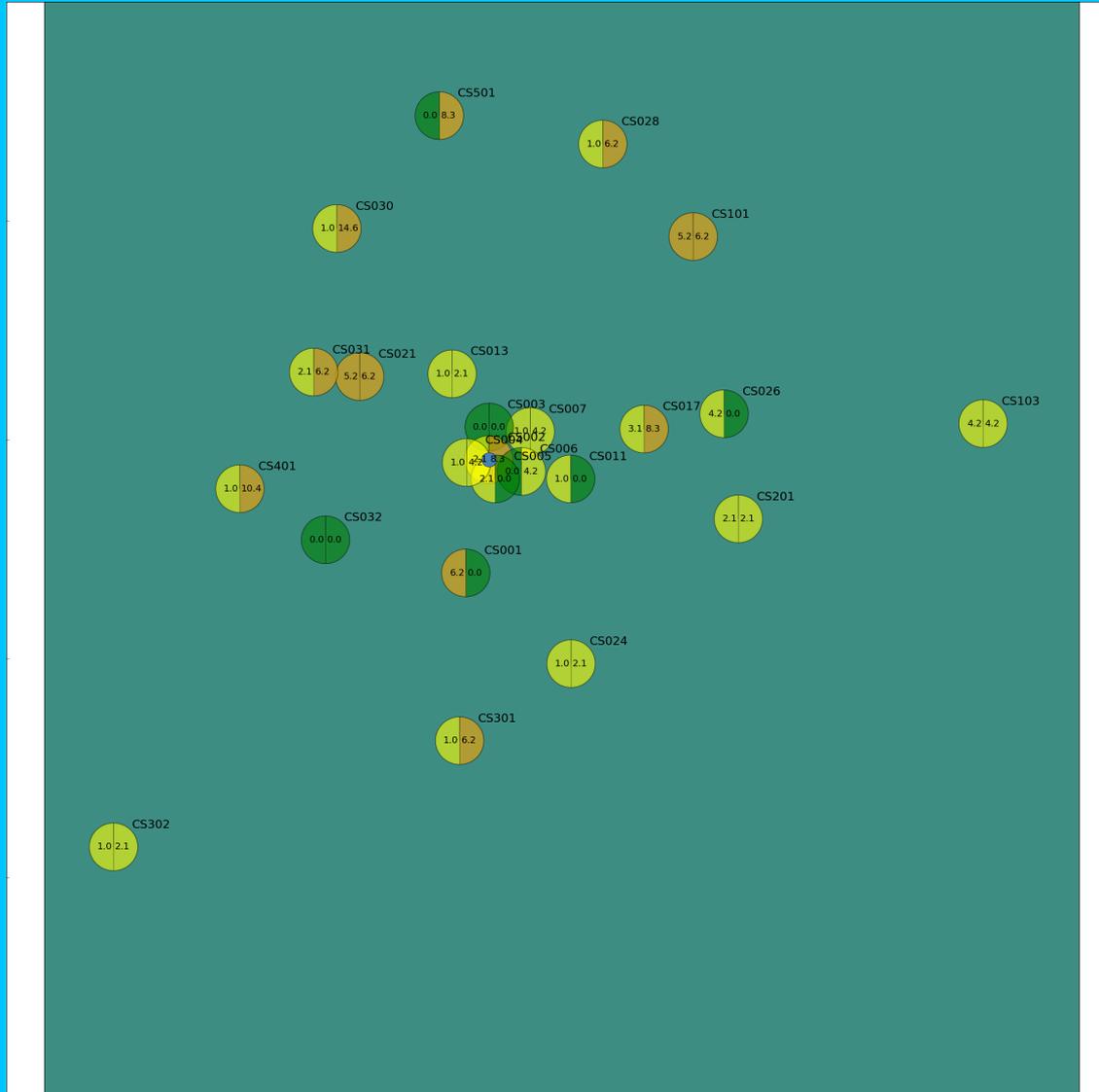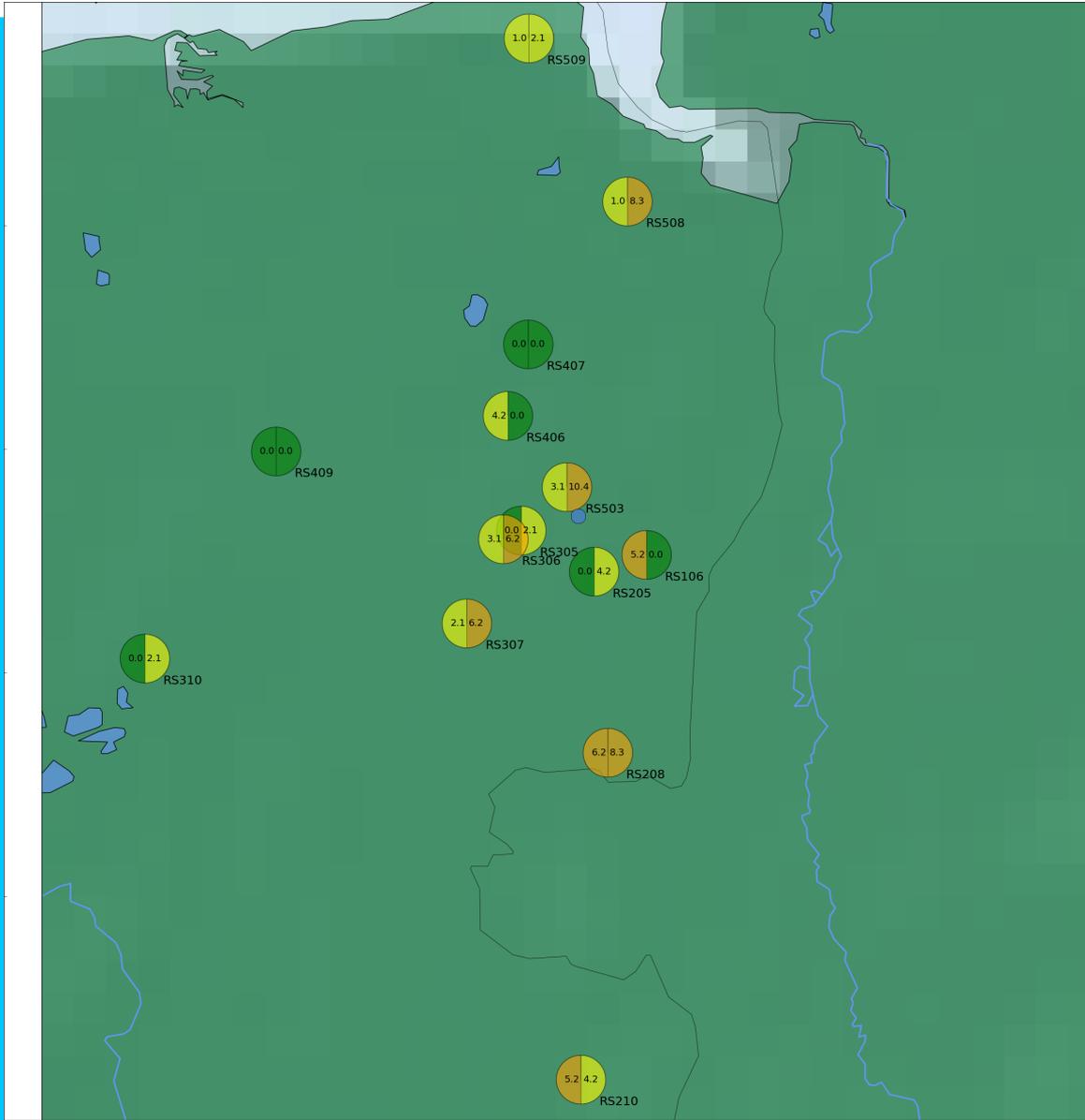
➢ System performed relatively fine during the last month– COBALT being used for correlator and BF mode successfully

➢ System issues:

  ➢ Due to a SAS/MAC problem (redmine #6192), sometimes observations do not start. This is due to the feedback data flow from Cobalt to CCU/PVSS. PVSS has been disabled for the moment and a long term solution is to be implemented.

News regarding the observing system: Accidental data deletion

➢ On Monday 18 August, while trying to manually delete raw Pulsar data on CEP2, a larger data deletion command was unintentionally issued on the cluster. Inventory efforts from Software Support, Pulsar team and Science Support almost finalized (but still ongoing):

   ➢ All PI's of affected projects have been notified.

   ➢ Minor damage for Interferometric Cycle projects.

   ➢ ≤ 30h observing time will need repetition.

   ➢ MSSS data loss (G. Heald).

   ➢ The most affected dataset correspond to pulsar projects:

      ➢ Full inventory of affected data almost complete.

      ➢ Waiting for summary pulsar products to be recovered from the high locus nodes.

      ➢ Affected observations will be repeated (during current and upcoming cycles).

News regarding the observing system: Accidental data deletion

- CEP2 is meant to be a production cluster, which will be eventually fully dedicated to Radio Observatory processing. After observation, the flow of data out of CEP2 should be quick. This, while ensuring a good progress with the Cycle observing program, also naturally reduces the losses suffered in these accidental episodes. While the Radio observatory will surely work towards more automatic tools that will prevent manual mistakes in the future, we advice all users to take what happened into account.

  - Users that still possess personal data on CEP2 that need back up, they should proceed ASAP with such procedure.

News regarding the observing system: Pipelines

- Pipelines:

  - The memory demand of operations on CEP2 seems to have increased during the past three months. This has led to several issues on the cluster, especially associated with processing. Pipeline setups that were so far supported since the beginning of Cycle 0 seem to use too many cluster resources now and therefore cause hanging of the locus nodes, under specific circumstances.

  - More care is taken when scheduling pipelines. In most cases, parallel processing is avoided and this inevitably causes long(er) processing queues.

  - Issues under the radar of the Software Support group – limits to NDPPP sub processes will be put in place

News regarding the observing system: Network reconfiguration

➢ The network reconfiguration originally planned for 15 – 26 September has been reassessed:

- The procedure has more facets than originally anticipated.

- It will be postponed until spring 2015 (final dates TBD).

- The period 15-26 Sept will still be used to scope the necessary work to be done in the spring.

- CEP systems (including CEP1/CEP3) will be available.

- Cycle 2 will be rescheduled to populate the upcoming 2 weeks (some PI's may be contacted before than initially scheduled).

- Users will be notified after the LSM.

News regarding Cycle observations

- ➢ Detailed Cycle 2 schedule available here:

- ➢ https://docs.google.com/spreadsheet/pub?
  key=0AtnmDczhIbEtdF9TT3RnX0xOSEZ1TWtOaWdILUVIVXc&output=html

- ➢ Contact Science Support in case of questions/issues

- ➢ **Always cc 'sciencesupport@astron.nl' and include the proposal code in the subject line**

CEP news:

- CEP-2
  - Hanging locus nodes cause by high memory demanding processes

- CEP-3

  - Beta-testers will access the system next week.
  - New policy regulating access to CEP3 and data handling available at
    - *http://www.astron.nl/radio-observatory/observing-capabilities/depth-technical-information/cycle-1-observing-and-processin*

- CEP-1 users:

  - **BACK UP YOUR DATA ELSEWHERE OR GET IN TOUCH WITH SCIENCE SUPPORT AT sciencesupport@astron.nl IF YOU WOULD LIKE TO REQUEST TRANSFER OF DATA TO CEP3 AND HAVE NOT YET DONE SO**

CALENDAR LOFAR activities

- LOFAR Imaging Busy Week #21 : 1 – 5 September

- Next Stop day : October 7th

- Next LSM : September 17th

- Cycle 3 proposal submission deadline : Wednesday 10 September, **12 UT**

- LOFAR Data Analysis School : November 2014

- LOFAR news email list:
  http://www.astron.nl/radio-observatory/subscribe-lofar-news/subscribe-lofar-news