ASTRON

Netherlands Institute for Radio Astronomy

Programme:

1. *Array status & Observatory update – R. Pizzo*
2. *CEP3: status update and planning – A. Schoenmakers*
3. *LTA status- A. Renting*
4. *Radio Recombination Line Studies on M82 from LOFAR observations – C. Toribio*
5. *Polarized radio emission from extensive air showers measured with LOFAR - P. Shellart*

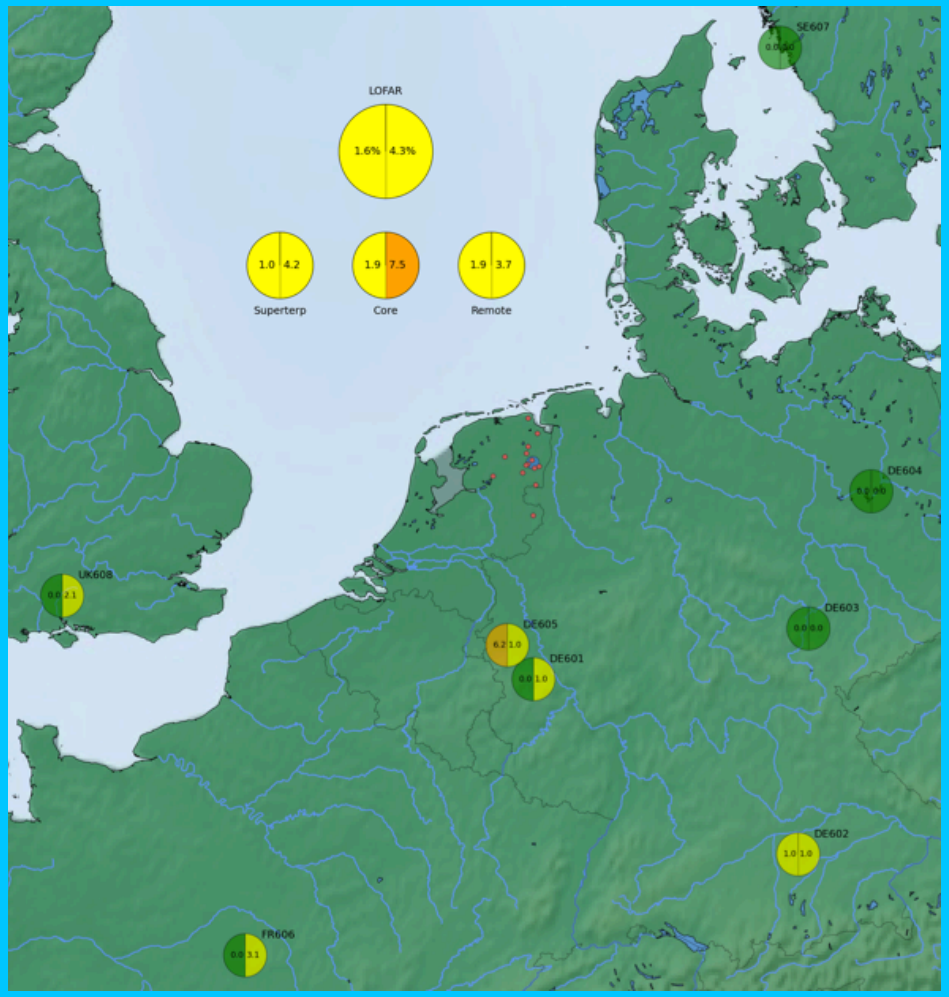
Array Status

- 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
- No maintenance last week and this week on HBA
- Last week 79 LBA antenna's repaired
- Maintenance on SE607 will be ongoing this week
- DE601 and FR606 need to be done the coming weeks/months

Overview, including IS

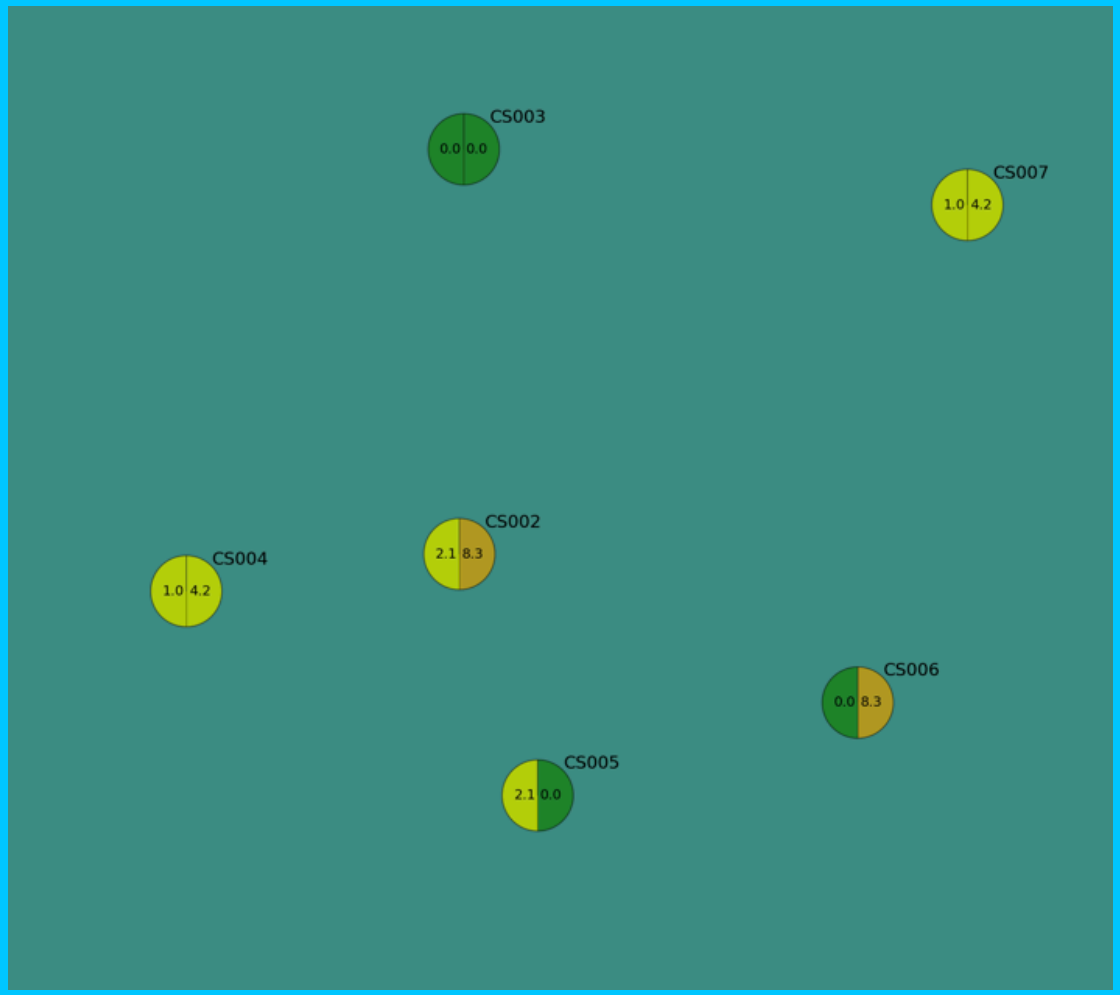
LBA: 1.6%; HBA: 4.3%

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



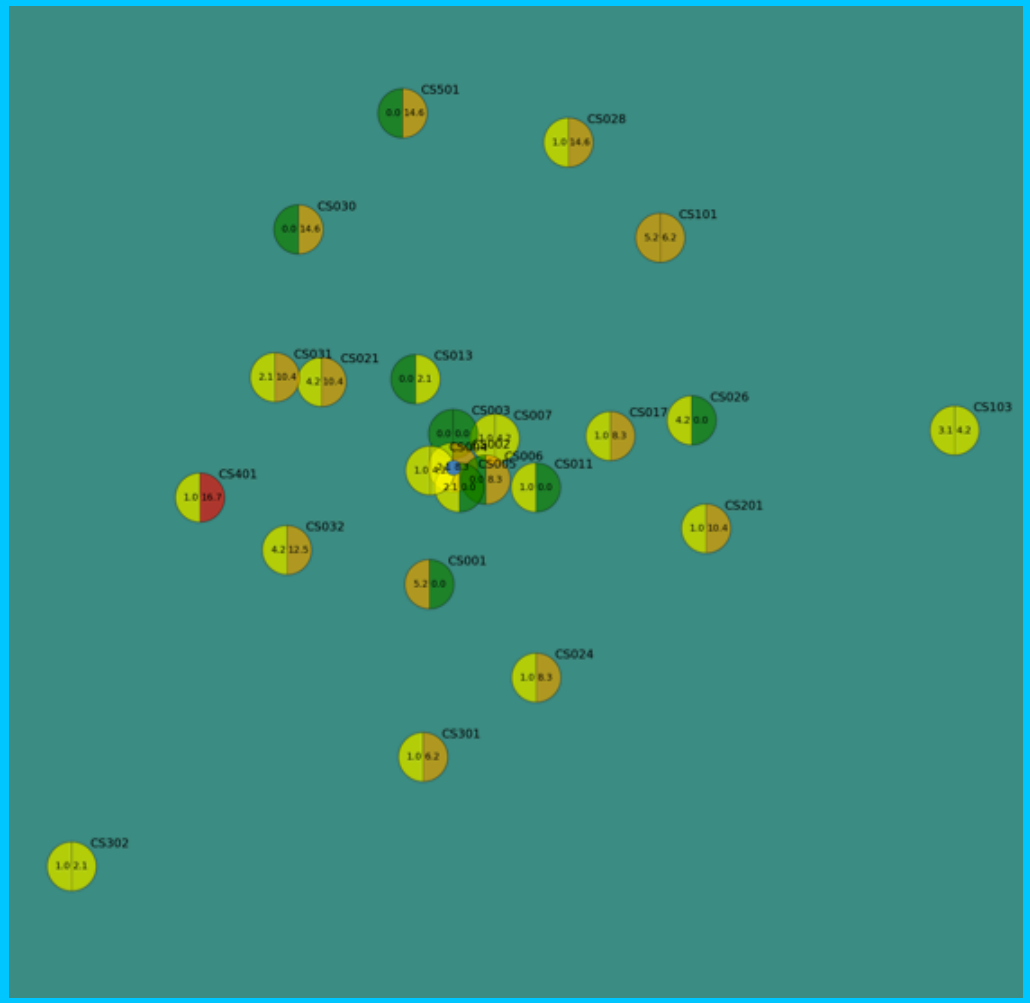
Superterp

LBA: 1.0%; HBA: 4.2%



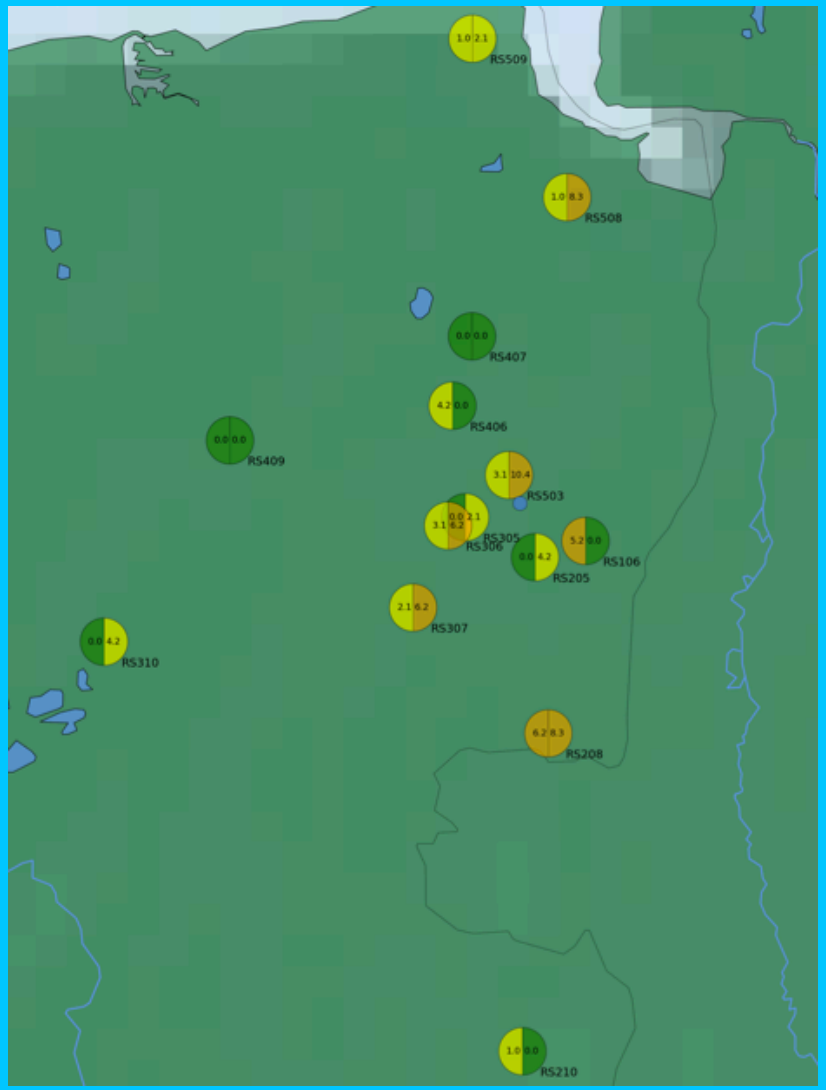
Core Stations

LBA: 1.9%; HBA: 7.5%



Remote Stations

LBA: 1.9%; HBA: 3.7%



News regarding the observing system

- System performed relatively fine during the last month– COBALT being used for correlator and BF mode successfully
- System issues:
  - High cabinet temperatures during warm days
  - The videocard of gateway3 stopped working on Thursday 7 August. Repaired on August 12. High data rate projects postponed.
  - Due to a SAS/MAC problem (redmine #6192), sometimes observations do not start. This might be due to the feedback data flow from Cobalt to CCU/ PVSS. Stress-test observations are currently in progress to confirm this
  - Performance issues LTA
  - Intense observing program – schedule rearrangements
  - 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. Deletion was stopped. Damage very contained for Interferometric Cycle projects. Data recovery being attempted on 'Pulsar nodes'. Final assessment will be sent to the PI's of affected projects during the next two days

News regarding the observing system: International stations connectivity

- Situation was monitored through July. Conclusion: the issues affecting international stations connectivity have indeed been solved though
  - (i) pinging procedure between COBALT and international stations
  - (ii) swapping the interfaces and optics of the Effelsberg and Juelich connection at Juelich.
- Occasional problems with international station connectivity are still experienced, but are due to (i) unannounced maintenance and (ii) accidental fiber cut
- Scope of the tiger team has been accomplished

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

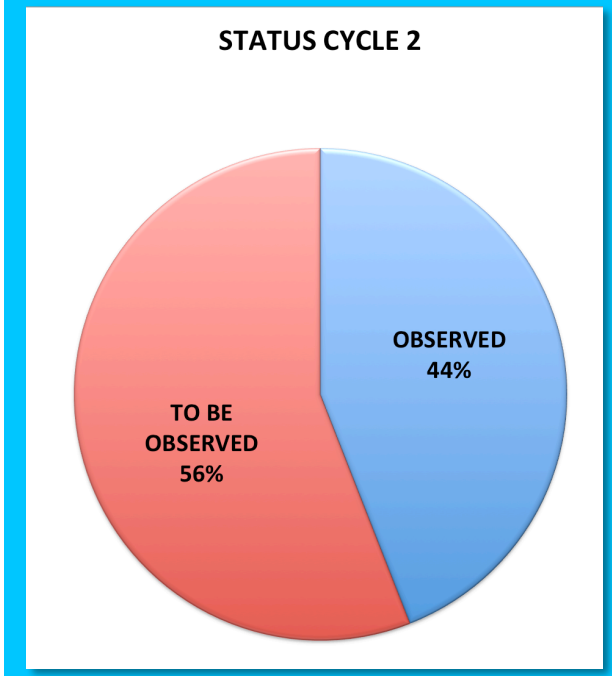
- Planned for 15 – 26 September
  - It is expected that the first week in particular, there will be no systems accessible at all (other than for testing/validation)
  - No production observations - no pipelines
  - CEP systems (including CEP1/CEP3) not available. Might they become available during the second week, you will be notified.
  - Data retrieval from the LTA will remain functional. Therefore, users will still be able to retrieve their project data on their external computing facilities.

Applying for commissioning time

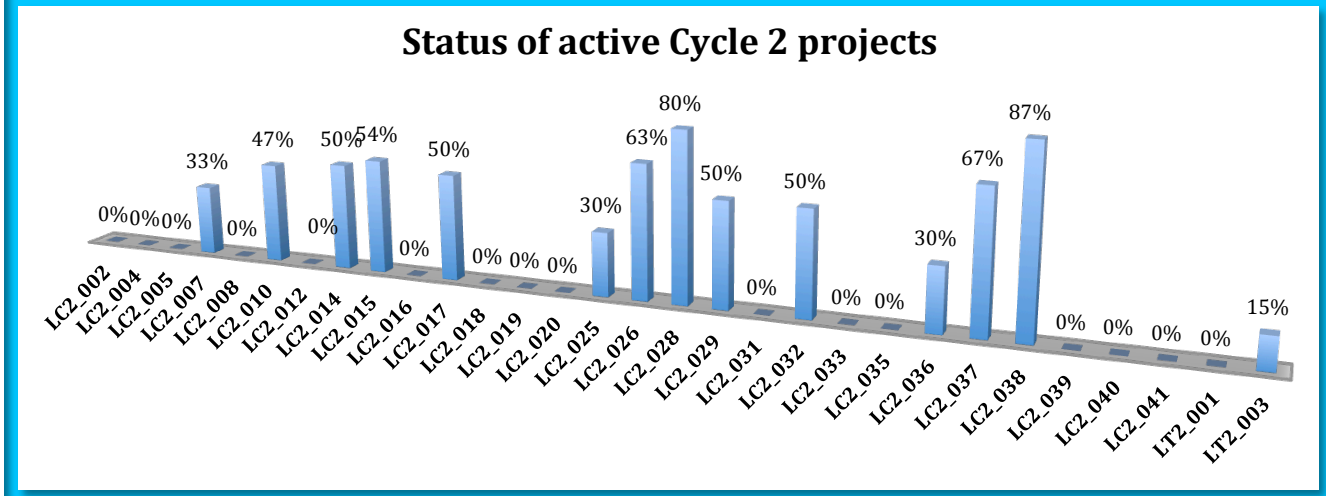
- LOFAR users who want to suggest observing experiments aimed at commissioning a specific aspect of the instrument can apply for 'commissioning time' at any moment.
- Requests should be sent to R. Pizzo and M. Brentjens, who jointly will decide whether there is room in the schedule for such experiment and it is useful enough to take some specified amount of Science Support and Software Support.
- In case of rejection, the proposers can appeal to the Director of the Radio Observatory.
- People who achieve scientific results from commissioning time obviously have to go through the Builders List.
- For more details see

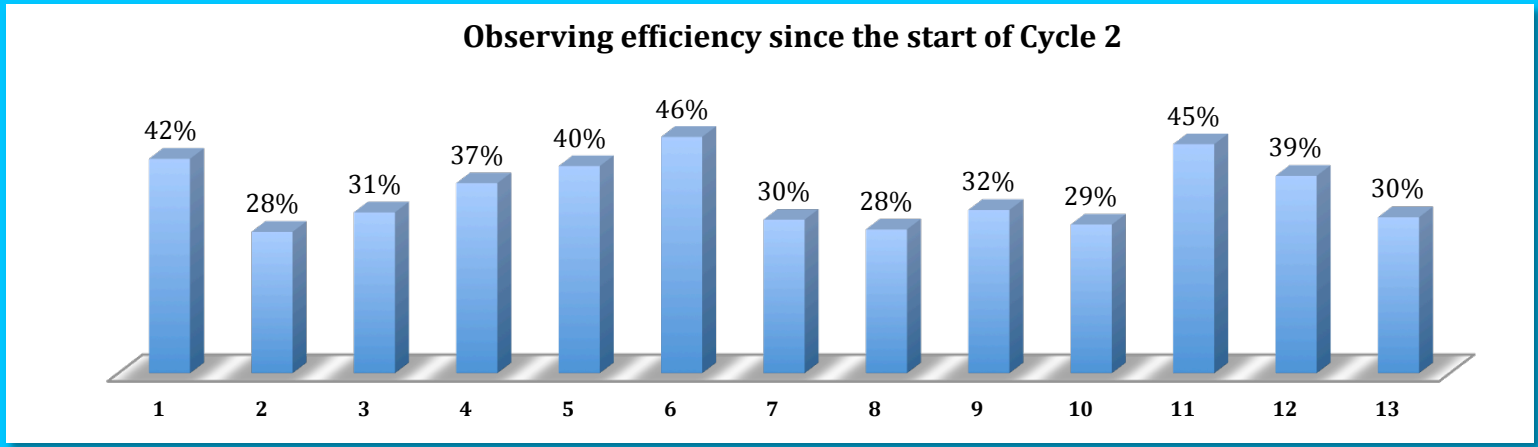
  http://www.astron.nl/radio-observatory/asking-time/asking-time

News regarding the observing system: Cycle Observations

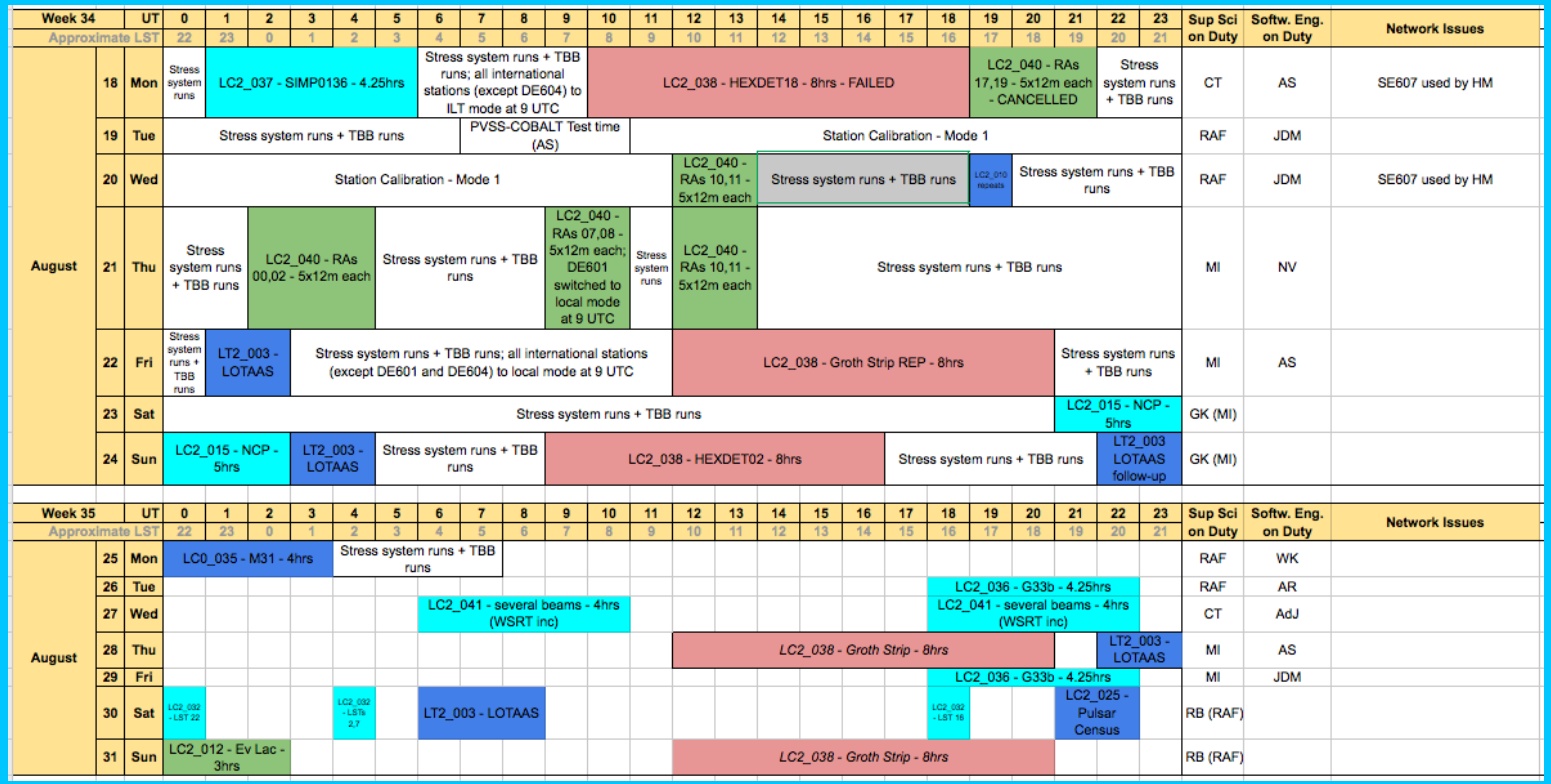


- 9 projects completed – 710 hours observed *successfully*
- Cycle 1 – 9% left; will continue with second priority





News regarding Cycle observations



Week 34		UT	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Sup Sci on Duty	Softw. Eng. on Duty	Network Issues
Approximate LST			22	23	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21			
August	18	Mon	Stress system runs	LC2_037 - SIMP0136 - 4.25hrs					Stress system runs + TBB runs; all international stations (except DE604) to ILT mode at 9 UTC				LC2_038 - HEXDET18 - 8hrs - FAILED									LC2_040 - RAs 17,19 - 5x12m each - CANCELLED			Stress system runs + TBB runs			CT	AS	SE607 used by HM
	19	Tue	Stress system runs + TBB runs							PVSS-COBALT Test time (AS)			Station Calibration - Mode 1														RAF	JDM	
	20	Wed	Station Calibration - Mode 1												LC2_040 - RAs 10,11 - 5x12m each		Stress system runs + TBB runs					LC2_015 repeats	Stress system runs + TBB runs				RAF	JDM	SE607 used by HM
	21	Thu	Stress system runs + TBB runs	LC2_040 - RAs 00,02 - 5x12m each			Stress system runs + TBB runs			LC2_040 - RAs 07,08 - 5x12m each; DE601 switched to local mode at 9 UTC	Stress system runs		LC2_040 - RAs 10,11 - 5x12m each		Stress system runs + TBB runs												MI	NV	
	22	Fri	Stress system runs + TBB runs	LT2_003 - LOTAAS	Stress system runs + TBB runs; all international stations (except DE601 and DE604) to local mode at 9 UTC										LC2_038 - Groth Strip REP - 8hrs									Stress system runs + TBB runs			MI	AS	
	23	Sat	Stress system runs + TBB runs																					LC2_015 - NCP - 5hrs			GK (MI)		
	24	Sun	LC2_015 - NCP - 5hrs		LT2_003 - LOTAAS		Stress system runs + TBB runs				LC2_038 - HEXDET02 - 8hrs									Stress system runs + TBB runs					LT2_003 LOTAAS follow-up		GK (MI)		

Week 35		UT	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Sup Sci on Duty	Softw. Eng. on Duty	Network Issues
Approximate LST			22	23	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21			
August	25	Mon	LC0_035 - M31 - 4hrs				Stress system runs + TBB runs																				RAF	WK	
	26	Tue																			LC2_036 - G33b - 4.25hrs						RAF	AR	
	27	Wed							LC2_041 - several beams - 4hrs (WSRT inc)												LC2_041 - several beams - 4hrs (WSRT inc)						CT	AdJ	
	28	Thu													LC2_038 - Groth Strip - 8hrs										LT2_003 - LOTAAS		MI	AS	
	29	Fri																			LC2_036 - G33b - 4.25hrs						MI	JDM	
	30	Sat	LC2_032 - LST 22				LC2_032 - LSTs 2,7		LT2_003 - LOTAAS												LC2_032 - LST 16			LC2_025 - Pulsar Census			RB (RAF)		
	31	Sun	LC2_012 - Ev Lac - 3hrs												LC2_038 - Groth Strip - 8hrs												RB (RAF)		

- 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
  - Delays in the commissioning of the new cluster, but things are getting back on track now. Current timeline given in Arno's talk
- 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**
- 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*

CALENDAR LOFAR activities

- LOFAR Imaging Busy Week #21 : 1 – 5 September
- Next Stop day : 2 September
- Next LSM : 3 September
- Cycle 3 proposal submission deadline : Wednesday 10 September, **12 UT**
- LOFAR network reconfiguration : 15 – 26 September