ASTRON

Netherlands Institute for Radio Astronomy

Programme

1) Array status – Harm Munk

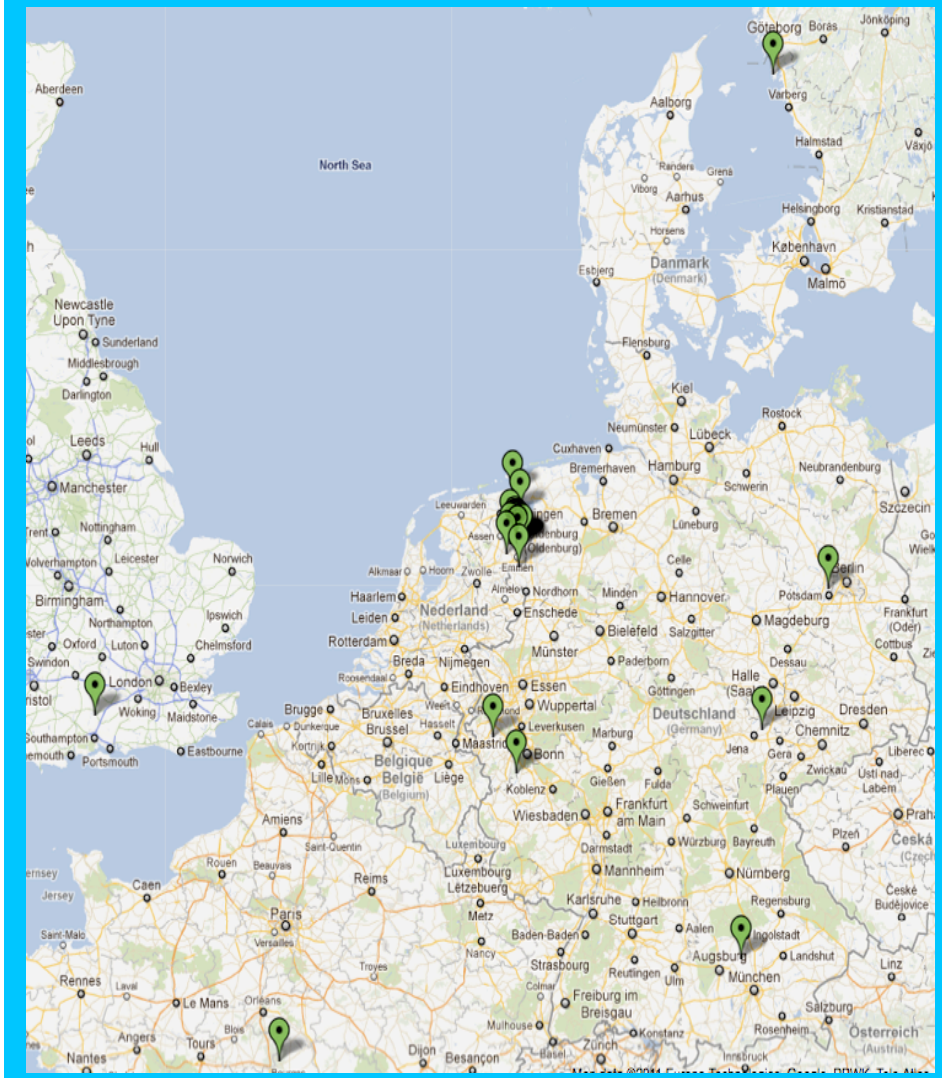
2) Observatory update – Wilfred Frieswijk

3) Fitting and testing ionospheric phase screens with MSSS data – David Rafferty

4) OH spectral lines – Ian Hoffman

5) Exoplanet radio search and characterization – Philippe Zarka

Array Status



- 38 operational NL stations
  - 24 CSs
  - 14 RSs
- 8 ISs

- DE603: Rb-clock replaced 12-nov, timing system problems appears to be solved
- Storm damage NL-stations repaired, except LBAs
  - CS021: 1 LBA, CS201: 1 LBA, CS501: 1 LBA, RS508: 22
- AARTFAAC hardware installed on Superterp Stations

Network, CEP Status

Network
- RS210: network provider problems
- DE607: network provider problems

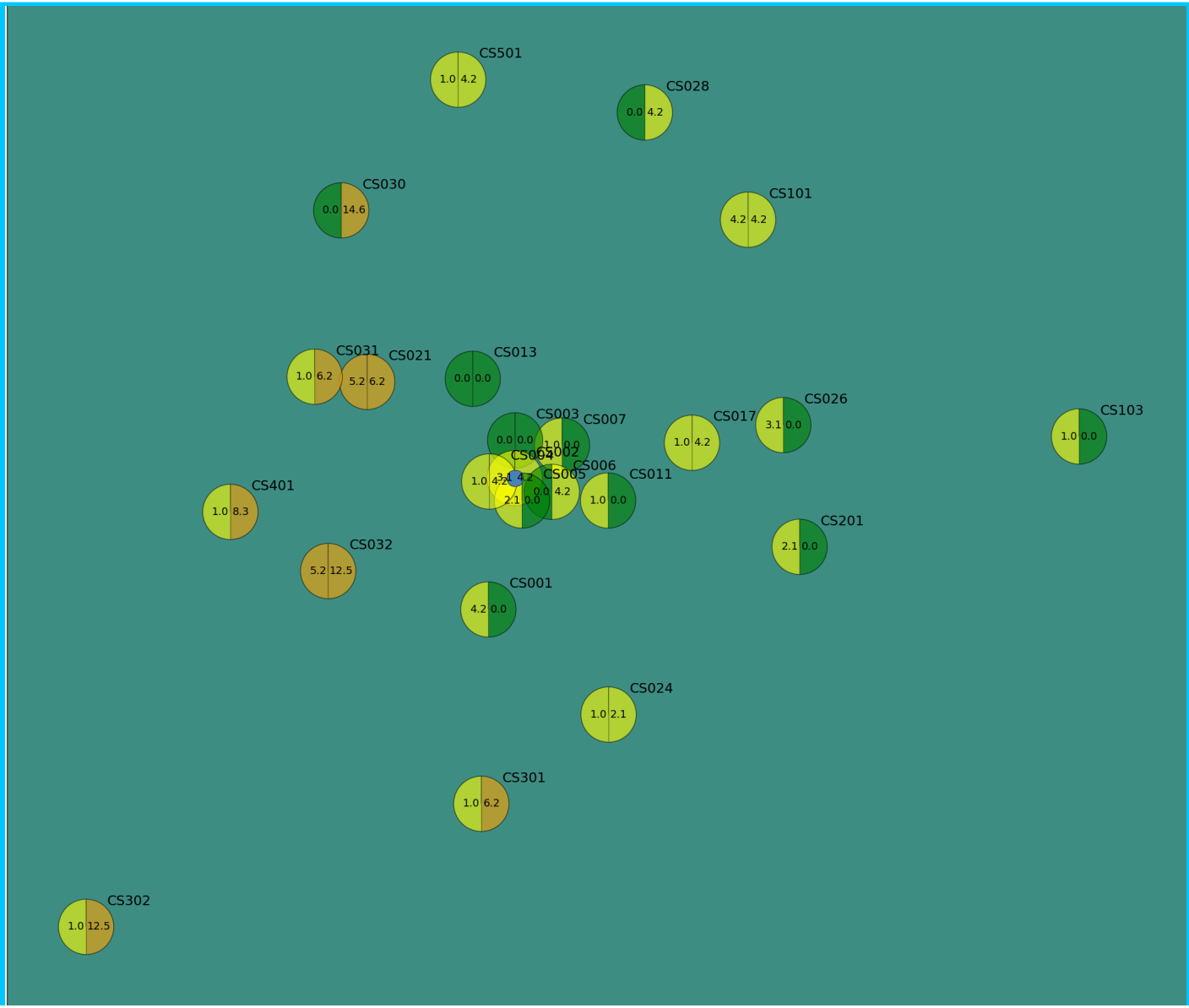
BG/P
- Nominal
- Note that we cannot use R01 anymore (Cobalt)

Cobalt
- First fringes November 1

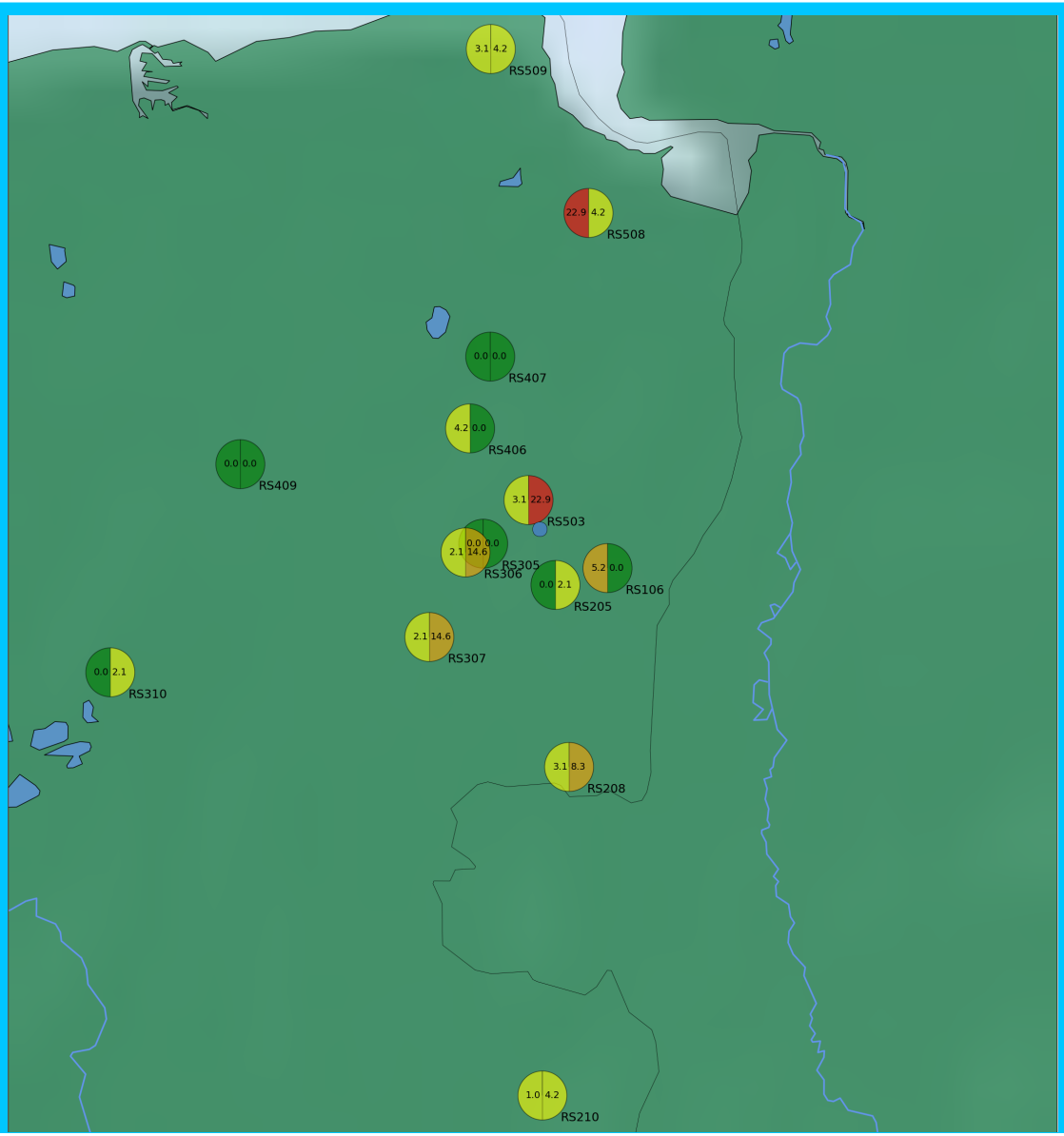
CEP-I/II(/III)
- No issues

Next stopday
- December 3

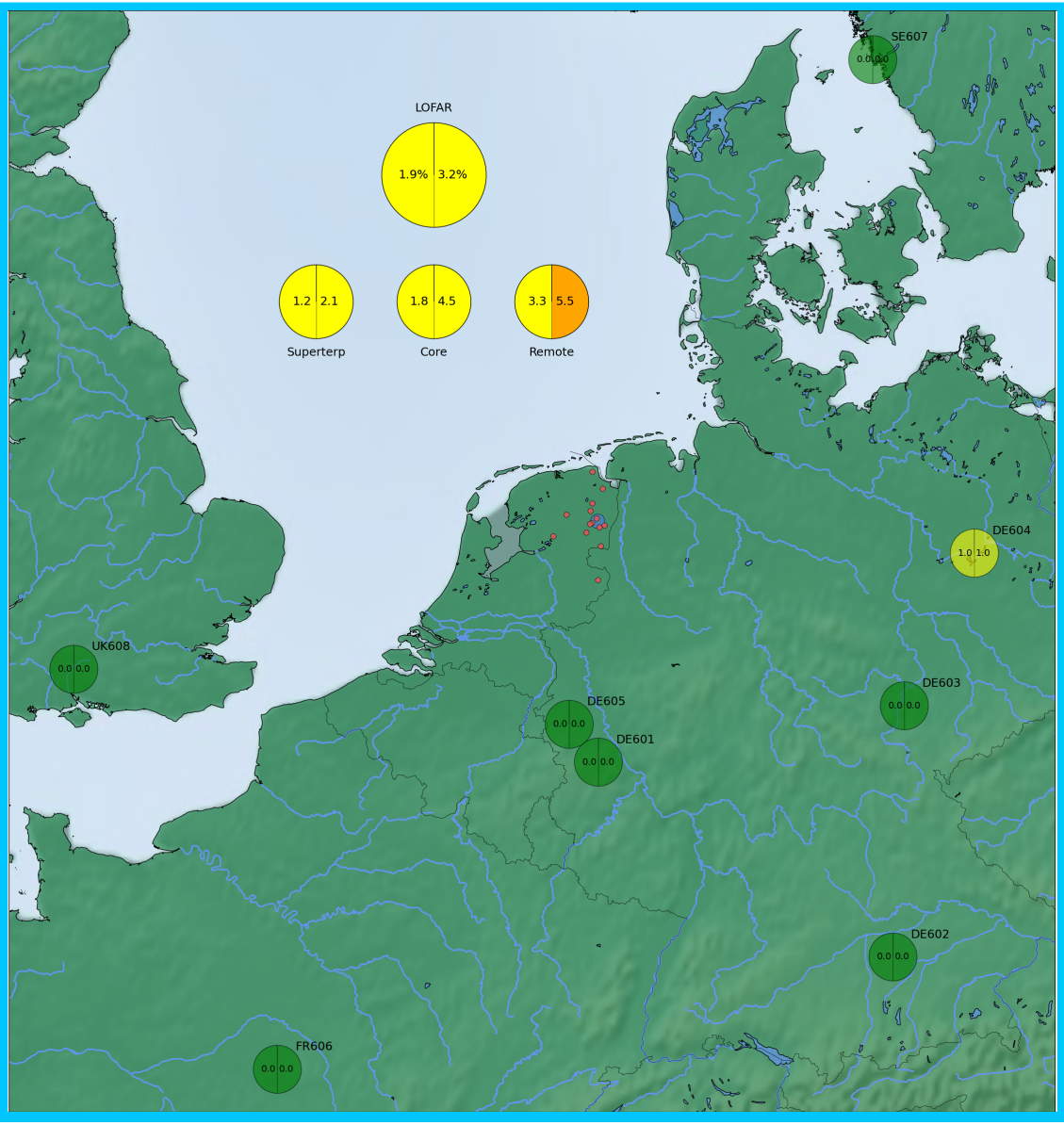
Superterp and Core Stations



Remote Stations



International Stations



News regarding the observing system
Station calibration

- Station calibration:
  - ✓ Remote stations: mode 3, 5 & 7 installed
  - ✓ Core stations to follow next
  - ✓ Improved station calibration
    - more automated
    - handed over to operators

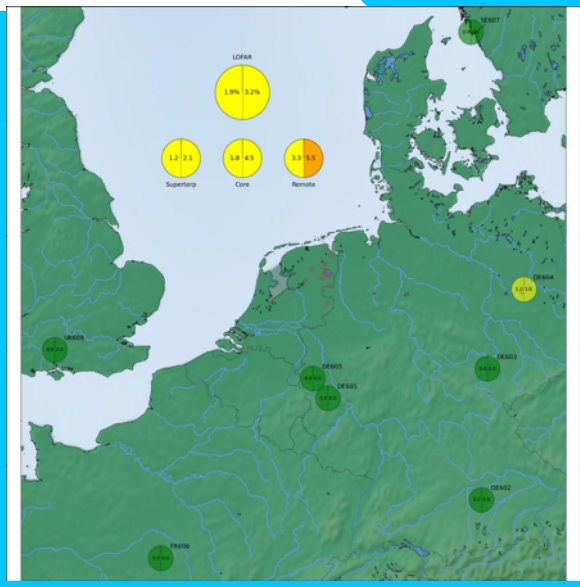
- Updated status available at (updated next week):
  - ✳ http://www.astron.nl/radio-observatory/astronomers/current-status

News regarding the observing system
Stability & performance

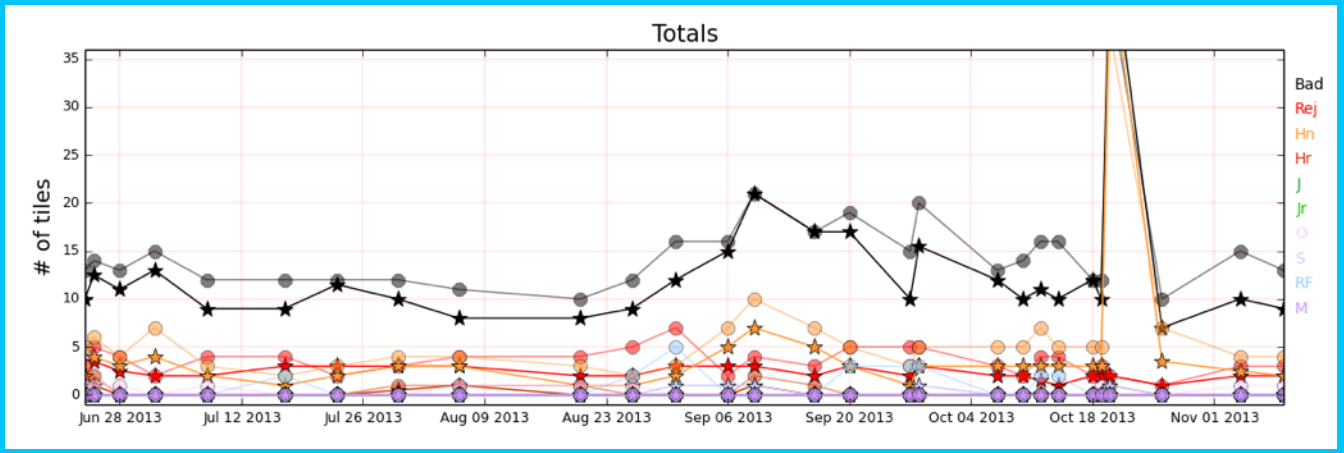
- Overall stability is ok
  - ✓ Observations stable, few station failures
  - ✓ Pipelines stable -- occasional swapping, too many processes
- Issues
  - ✓ Network reconfiguration (roll-back Oct 25)
    - bandwidth issues mostly solved, occasional hiccups still present
  - ✓ Station failures
    - RS508, RS503, RS306, RS307 fixed; CS013 CS021 fixed
    - ILT-mode operational again, excluding DE603 (new rubidium installed)
    - SE607 network interference last week
    - RS409 heavily affected by RFI (Smilde)

News regarding the observing system
LOFAR status

- Issues
  - ✓ Degradation of HBA tiles
    - slight modifications to optimize station tests
    - new tiles are identified
    - some maintenance performed
  - ✓ Live station test in progress



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



News regarding the observing system: Updates, issues, tests

- Development

  - ✓ Rollout: LOFAR Release 1.18 early December

  - ✓ Preparation of cycle 1 and Cobalt

    - Beamformed + interferometer mode including pipelines and ingest
    - XML generator, PVSS/Navigator, MoM, pipelines

News regarding the observing system: Archive

- Raw/processed data ingest to LTA (LC0, DDT0) is ongoing
  - Data may arrive in LTA as “unspecified”
  - Incomplete/-correct metadata
  - SARA server down (2013-11-12)
- LC019 data transfer to Target cluster (Cycle 0 done)
  - Delayed, various issues, Target Tier F full

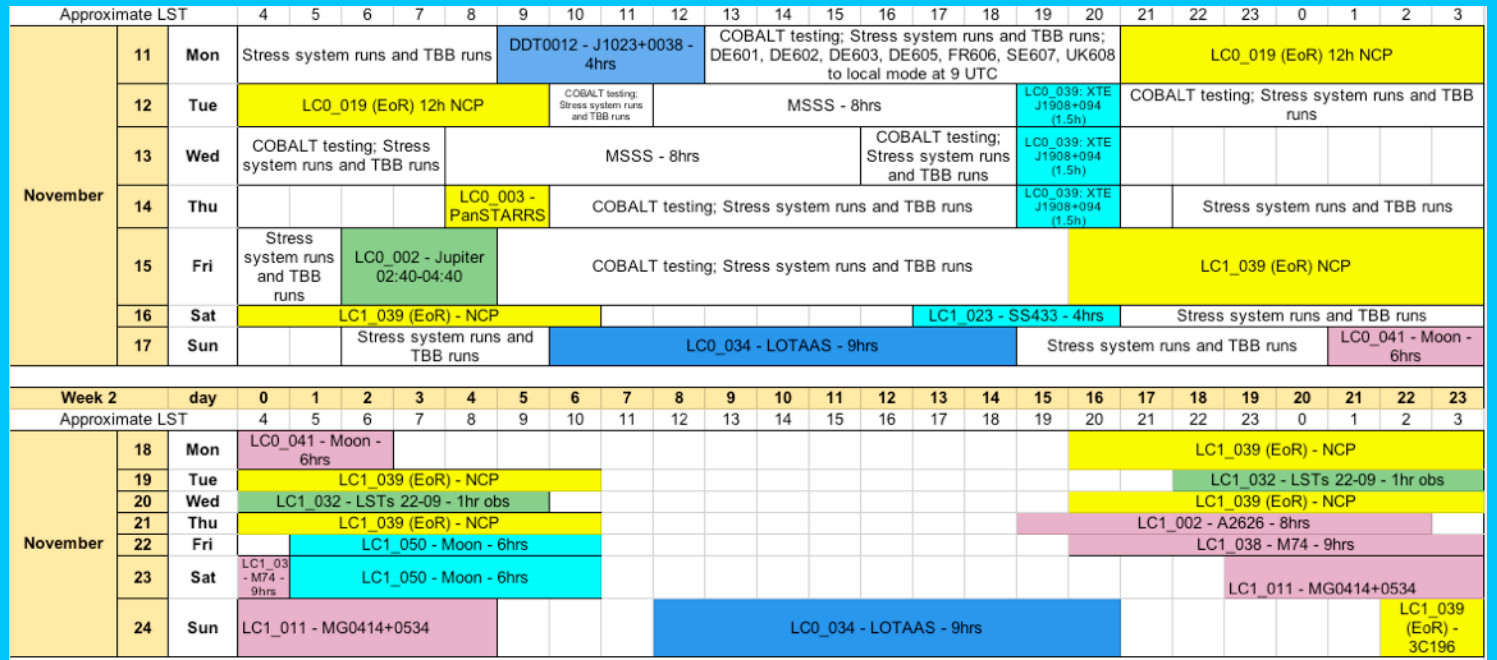
News regarding Cycle 0 and 1 observations

- Cycle 0 >95% done; Cycle 1 starts Nov 15 LC1_039: EOR
- Detailed schedule:

  https://www.astron.nl/radio-observatory/lofar/cycle-1-schedule/cycle-1-schedule

  ✓ contact science support in case of issues

  ✓ *ALWAYS cc* sciencesupport@astron.nl *SUBJECT* project code



Approximate LST			4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3
November	11	Mon	Stress system runs and TBB runs					DDT0012 - J1023+0038 - 4hrs				COBALT testing; Stress system runs and TBB runs; DE601, DE602, DE603, DE605, FR606, SE607, UK608 to local mode at 9 UTC								LC0_019 (EoR) 12h NCP						
	12	Tue	LC0_019 (EoR) 12h NCP						COBALT testing; Stress system runs and TBB runs			MSSS - 8hrs						LC0_039: XTE J1908+094 (1.5h)		COBALT testing; Stress system runs and TBB runs						
	13	Wed	COBALT testing; Stress system runs and TBB runs					MSSS - 8hrs							COBALT testing; Stress system runs and TBB runs			LC0_039: XTE J1908+094 (1.5h)								
	14	Thu					LC0_003 - PanSTARRS	COBALT testing; Stress system runs and TBB runs										LC0_039: XTE J1908+094 (1.5h)			Stress system runs and TBB runs						
	15	Fri	Stress system runs and TBB runs		LC0_002 - Jupiter 02:40-04:40			COBALT testing; Stress system runs and TBB runs											LC1_039 (EoR) NCP								
	16	Sat	LC1_039 (EoR) - NCP													LC1_023 - SS433 - 4hrs				Stress system runs and TBB runs						
	17	Sun			Stress system runs and TBB runs					LC0_034 - LOTAAS - 9hrs								Stress system runs and TBB runs				LC0_041 - Moon - 6hrs				

Week 2		day	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Approximate LST			4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3
November	18	Mon	LC0_041 - Moon - 6hrs																LC1_039 (EoR) - NCP							
	19	Tue	LC1_039 (EoR) - NCP																		LC1_032 - LSTs 22-09 - 1hr obs					
	20	Wed	LC1_032 - LSTs 22-09 - 1hr obs																LC1_039 (EoR) - NCP							
	21	Thu	LC1_039 (EoR) - NCP																LC1_002 - A2626 - 8hrs							
	22	Fri		LC1_050 - Moon - 6hrs															LC1_038 - M74 - 9hrs							
	23	Sat	LC1_03 - M74 - 9hrs	LC1_050 - Moon - 6hrs																		LC1_011 - MG0414+0534				
	24	Sun	LC1_011 - MG0414+0534									LC0_034 - LOTAAS - 9hrs													LC1_039 (EoR) - 3C196	

CEP news:
Stop-day November 5

- Cep-2: stable
- Cep-1: degrading
  - Backup data elsewhere!
  - Staging areas cleared every week (data > 4 weeks)
- Stop-day: minor maintenance

http://www.lofar.org/wiki/doku.php?id=engineering:stopday_procedure

CALENDAR of requested busy weeks and other LOFAR activities

- Commissioning

  http://www.astron.nl/radio-observatory/astronomers/commissioning/commisioning-plan

- Cycle 1

  https://www.astron.nl/radio-observatory/lofar/cycle-1-schedule/cycle-1-schedule

14/15	Nov	End cycle 0 / start cycle 1
27	Nov	Next LSM
3	Dec	Stop-day