LOFAR OBSERVING: INTERACTION USER – RADIO OBSERVATORY

R. F. Pizzo

ASTRON

ASTRON, November 17th 2014

LOFAR

RO PEOPLE

- A large number of software and hardware engineers, astronomers and others who designed, constructed and keep LOFAR operational
- ASTRON's Radio Observatory Science Support Group

sciencesupport@astron.nl

- Radio Observatory Operators

observer@astron.nl

- Telescope Astronomers

+ Operations and maintenance
+ Software Support

THE LOFAR SYSTEM: DATA FLOW

Station signals collected in the station cabinets

Signal sent to COBALT for correlation

CEP2

CEP3

Data sent to CEP2 for initial RO processing – products might get copied to CEP3

Products sent to the long-term archive

- Entire process is overseen by Operators, Science Support and Software Support groups

CALL FOR PROPOSALS

LOFAR

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- Two observing Cycles every year:
  - May 15 – November 14
  - November 15 – May 14
- Proposal call: 4 months before start of the Cycle (January, July)
- http://www.astron.nl/radio-observatory/observing-proposals/regular-proposal-call-instructions/regular-proposal-call-instr
- Proposal deadline: 2 months before the start of the Cycle (March, September)
- Advertisement of new functionality for the coming Cycle
- Available observing and processing hours

International LOFAR Telescope

Proposal Call to the Worldwide Community

Cycle 3: 15 November 2014 - 14 May 2015

Submission deadline Wednesday 10 September 2014, at 12 UT

This file in PDF form

Submission only via the online tool NorthStar.

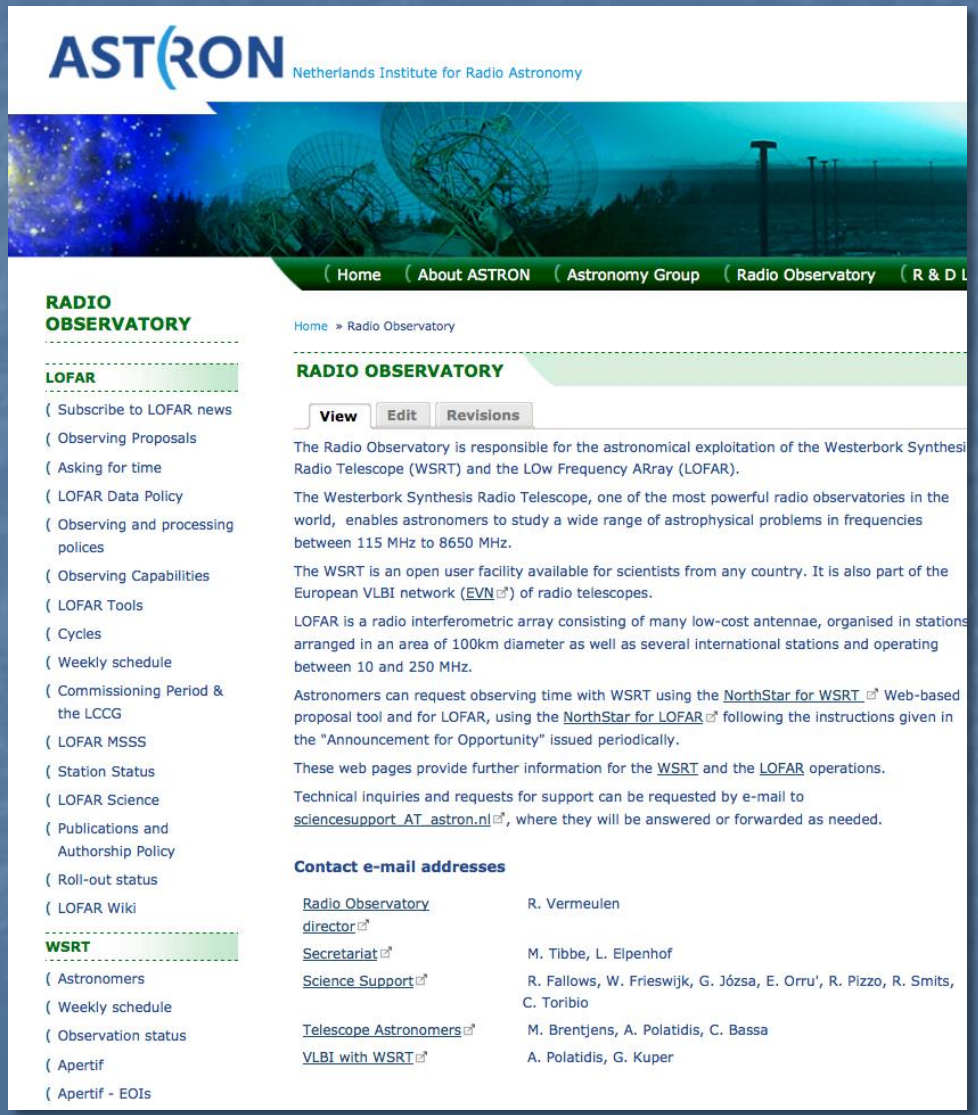
** **Proposers must ensure that their justification files adhere to the instructions given below and in Northstar, repeated online** here**. ****

The International LOFAR Telescope (ILT) is a powerful next-generation radio telescope for frequencies below 240 MHz that offers revolutionary new observing capabilities thanks to its phased-array technology with digital beam-forming.

Time on the ILT is available to scientists from the worldwide community, partly through Open Skies, and partly through allocations in tandem between national consortia and the independent Programme Committee.

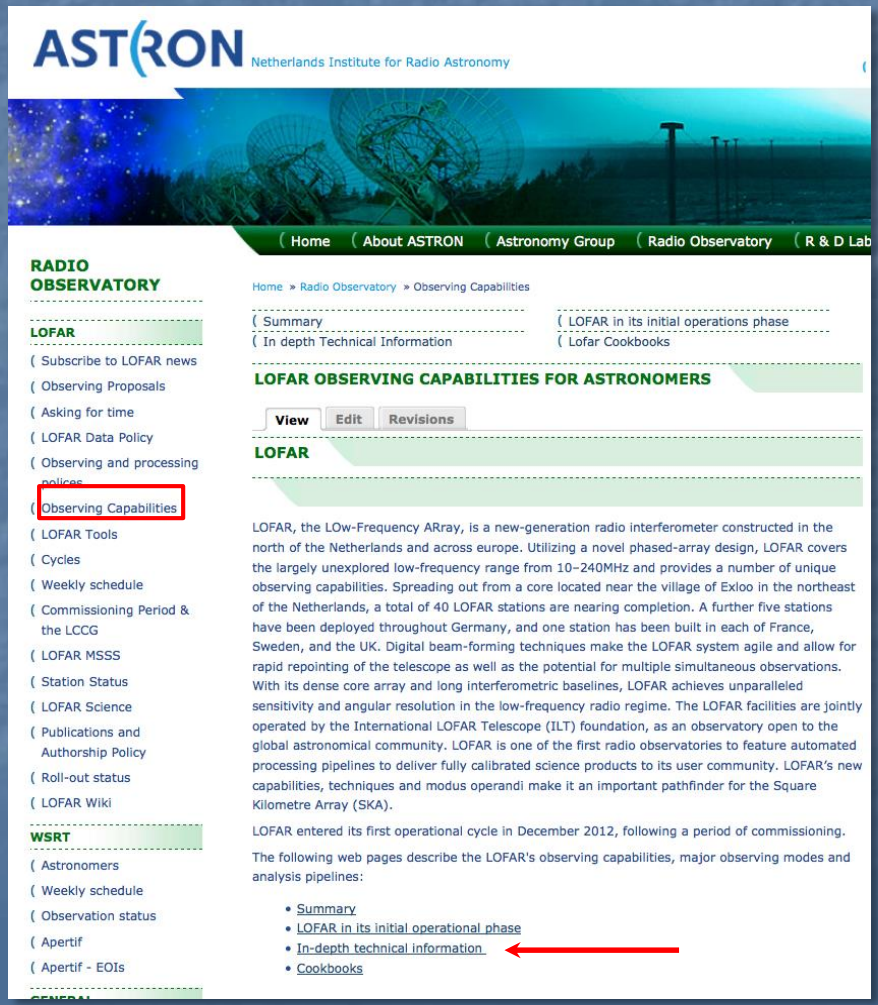
WORKING ON PROPOSAL: MUST SEE

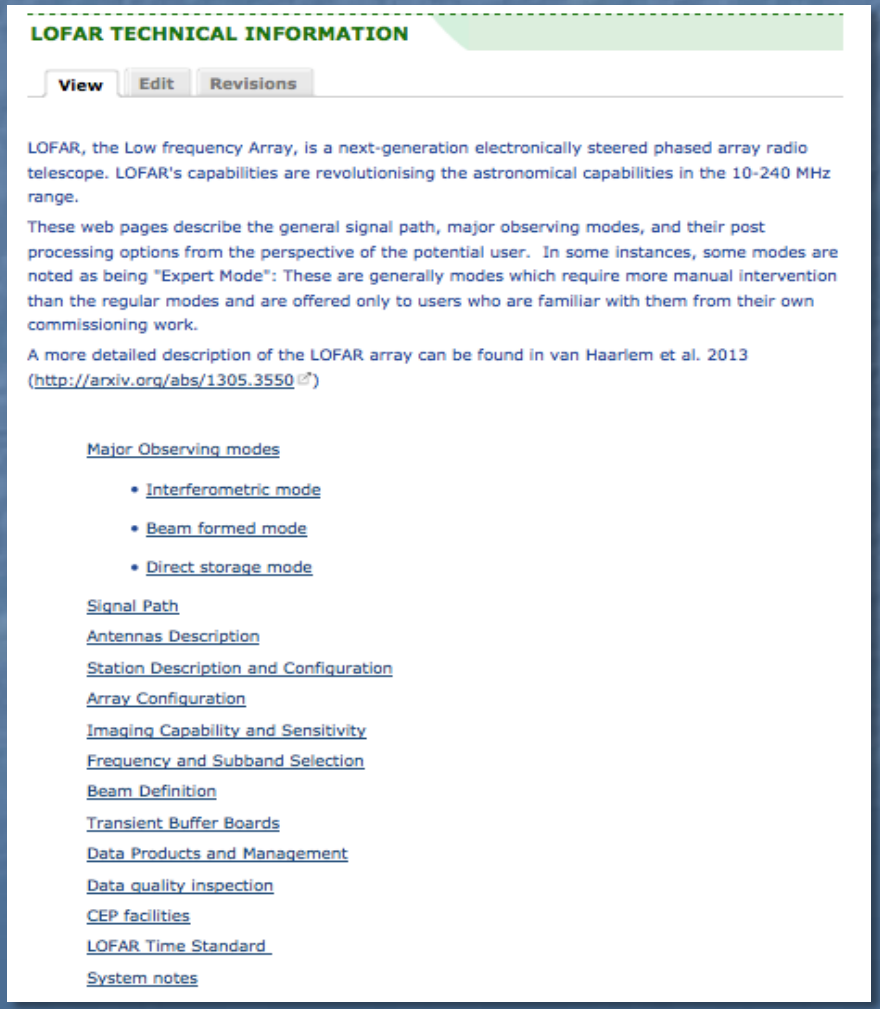
- Use the LOFAR web pages as a reference during the proposal preparation
- LOFAR pages: http://www.astron.nl/radio-observatory/radio-observatory
- Note: extensive description of LOFAR system available in van Haarlem et al. 2013



WORKING ON PROPOSAL: MUST SEE

- LOFAR pages: http://www.astron.nl/radio-observatory/radio-observatory



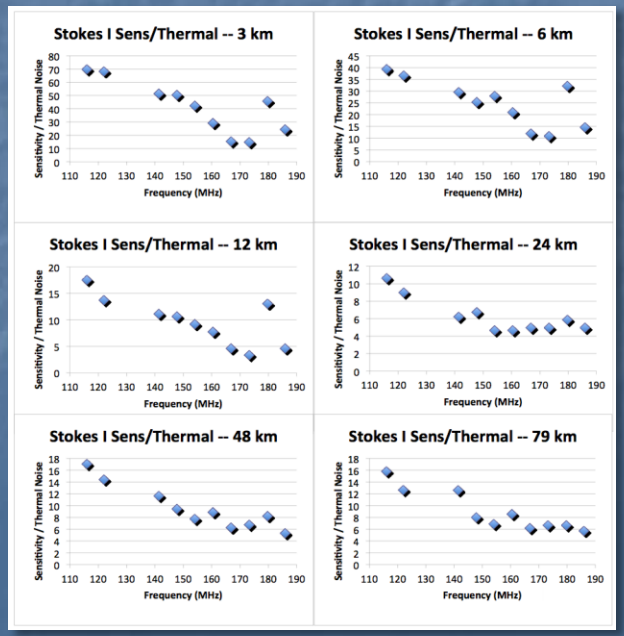


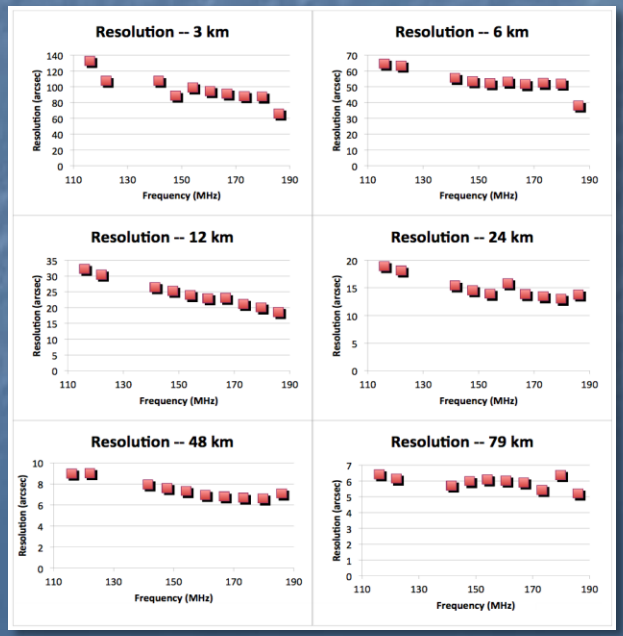
WORKING ON PROPOSAL: MUST SEE

- Interferometric mode web page (mode fully supported):

  http://www.astron.nl/radio-observatory/astronomers/array-configurations/3-telescope-parameters-and-array-configurations

- Observing strategies (LBA, HBA) + Calibrators
- Imaging Pipeline -> see G. Heald's lecture
- Characterization: achievable noise, resolution and required processing time for various pipeline processing strategies





Type	Nr Demixed Sources	Nr SB	P/O ratio
LBA	0	244	0.6
LBA	2	244	1.6
LBA	0	80	0.2
LBA	1	80	0.3
LBA	2	80	1.0
HBA	0	244	1.0
HBA	2	244	4.5
HBA	0	122	0.9
HBA	1	122	1.0
HBA	0	366	1.4
HBA	1	366	2.2
HBA	0	380	1.5
HBA	0	480	1.4

WORKING ON PROPOSAL: OBSERVING STRATEGIES

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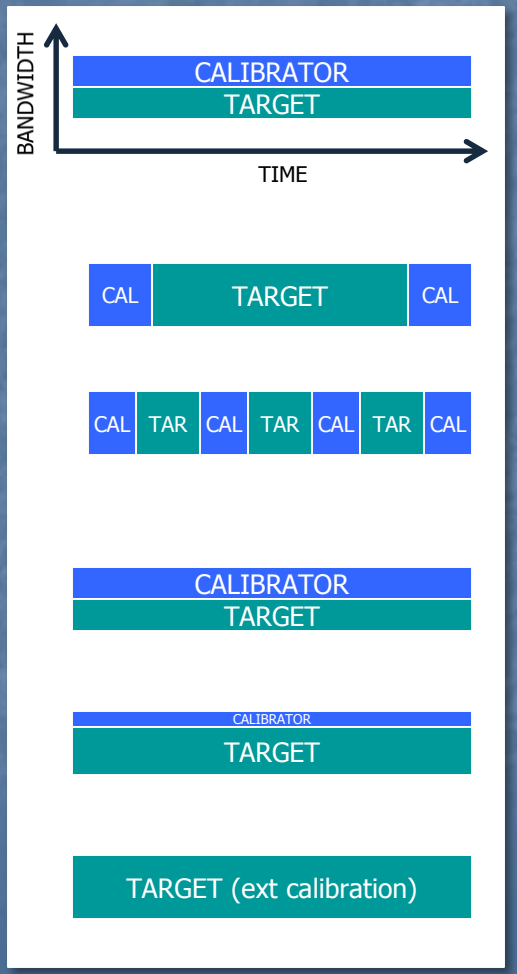
- Interferometric mode web page:

  http://www.astron.nl/radio-observatory/astronomers/array-configurations/3-telescope-parameters-and-array-configurations

- LBA: half of the available bandwidth on the target field and half on the calibrator

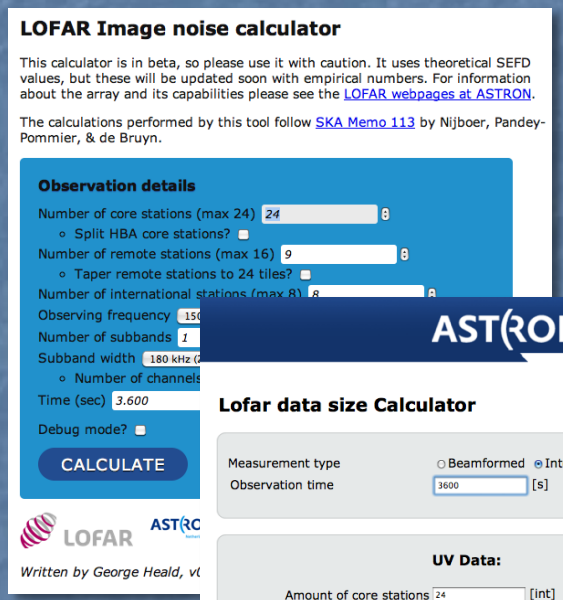
- HBA:

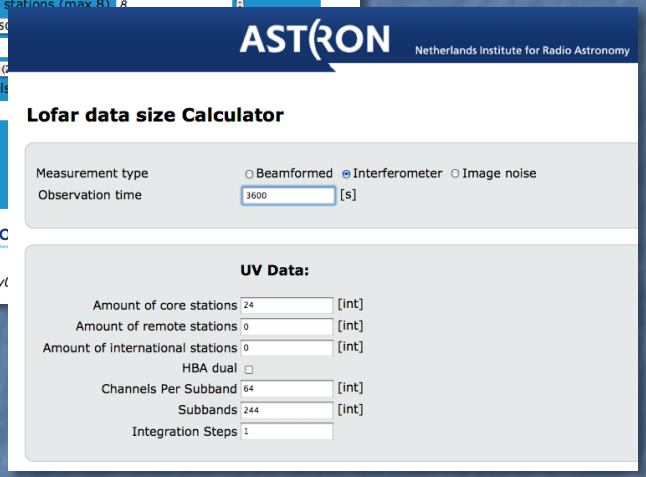
  - Continuous in time/Hour Angle observation of the target bracketed by short calibrator runs
  - Interleaved calibrator observations (eg. 2 min) with target field (eg. ~ 30 min), quasi-continuous in HA
  - Two beams, one on the target and a second on a "phase calibrator" if present within the analog beam of the HBA tiles (experimental strategy for advanced users). The "phase calibrator" should be a bright point like source selected by the user form other catalogues.
  - Three quarters of the bandwidth dedicated to the target and one quarter on the "phase calibrator"
  - If the user has a good initial model of the target field at his/her disposal, observations could be performed using the full bandwidth on the target

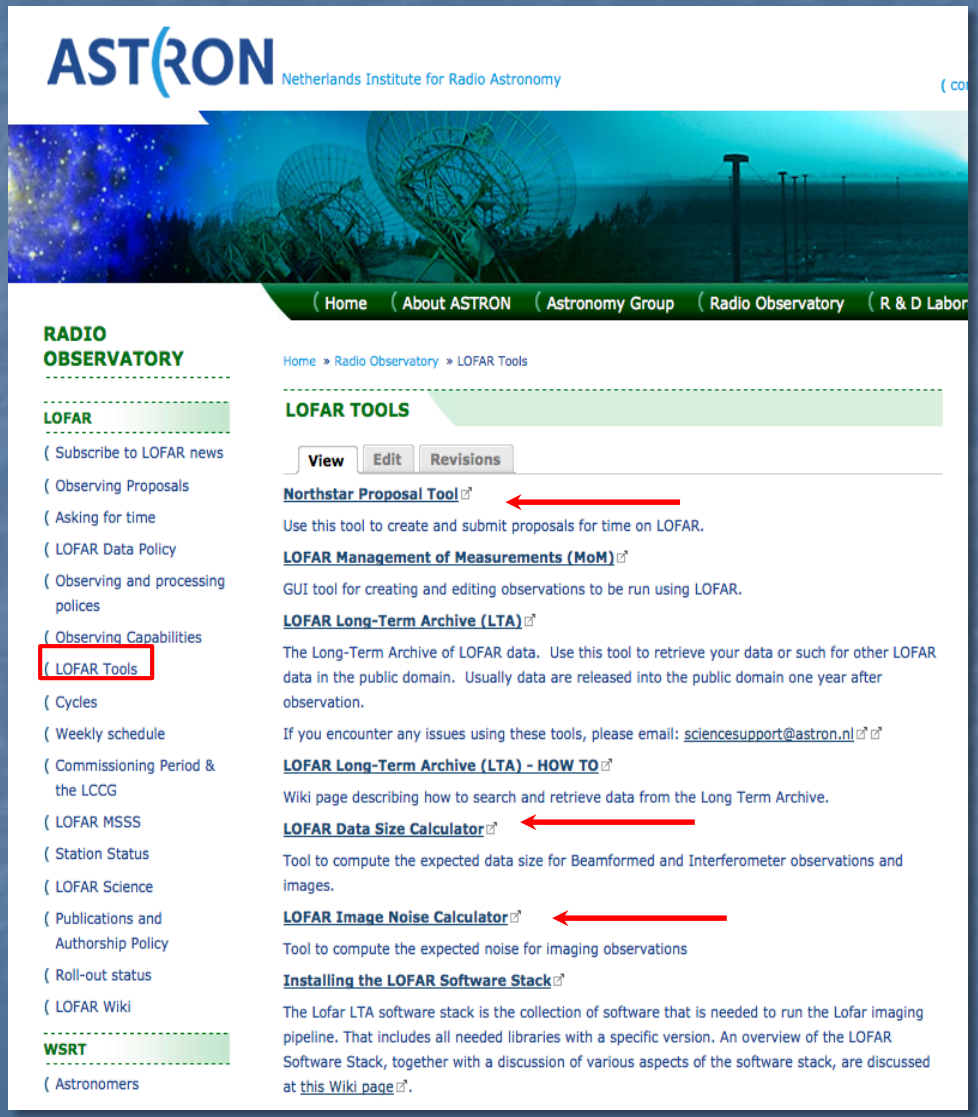


WORKING ON PROPOSAL: MUST SEE

- Note LOFAR Tools







PROPOSAL REVIEW PROCESS AND ALLOCATIONS

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- Proposal review process lasts for ~ 6 weeks
- Technical review panel assesses the technical feasibility of the projects
- National consortia distribute their reserved access hours in the for of must- and may-sponsor hours
- LOFAR Programme Committee complete allocations by detailing allocations to the may-sponsor list of proposals and by distributing open skies fraction of time
- Allocations known after the PC meeting at

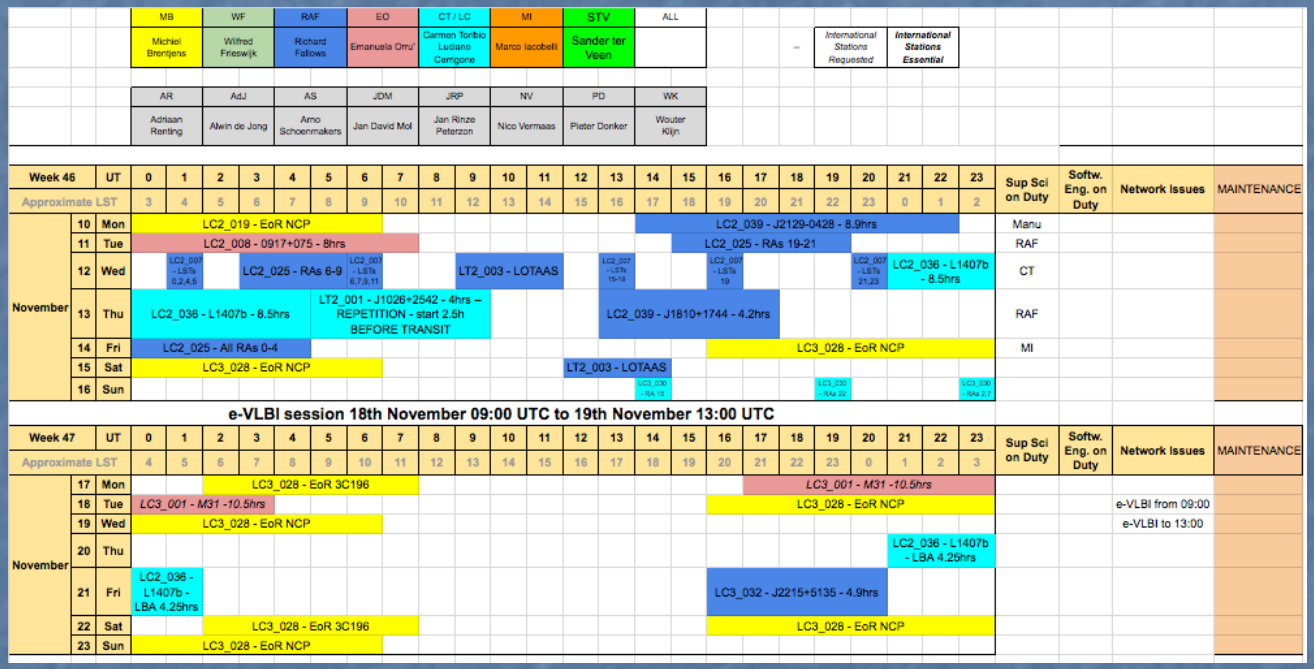
  http://www.astron.nl/radio-observatory/cycles/cycles

Proposal Code	PI	Proposal title	Total observing hours	Total processing hours
LC2_001	R. Fallows	Investigating Refraction Through the Solar Wind using Intensity and Phase Scintillation	5	0
LC2_002	R. Fallows	Probing a Coronal Mass Ejection with Scintillation Arcs	12	0
LC2_003	R. Fallows	Monitoring Ionospheric Scintillation above LOFAR	0	0
LC2_004	J.-M. Griessmeier	Measuring the energy of Saturn's lightning	24	18
LC2_005	F. Govoni	Large-scale magnetic field connecting A399-A401	10	18
LC2_006	A. Ginsburg	A search for p-H2CO, a potential EoR contaminant, toward the Galactic Center, W43, W44, W49, and M82	8	4
LC2_007	R. Lynch	Continued LOFAR Timing of Discoveries from the GBNCC Pulsar Survey	29	3
LC2_008	G. Giovannini	The mysterious giant radio source 0917+75	8	21.6
LC2_009	K. Sendlinger	Cosmic ray propagation in NGC5033	8	14
LC2_010	J. Verbiest	Pulsar Timing with LOFAR	105	30
LC2_011	M. Serylak	Studying Pulsars and the Interstellar Medium using International LOFAR Stations	0	0
LC2_012	R. Osten	Probing the stellar flare-CME relationship	12	18
LC2_013	A. Miskolczi	Extended radio continuum halo in the edge-on galaxy NGC5907	12	17
LC2_014	M. Brienza	Exploring radio-loud AGB recurrent activity with LOFAR	64	112
LC2_015	R. Fender	Wide-field searches for image-plane radio transients	82	132.3
LC2_016	G. Ramsey	The first MHz observations of an ultra cool dwarf star	3.5	10
LC2_017	D. Mulcahy	LBA observations of M51 and NGC891	18	25
LC2_018	P. Zarka	Search of radio emission from the 55 Cnc exoplanetary system	32	0
LC2_019	A. G. de Bruyn	The LOFAR EoR project	204	0
LC2_020	J. E. Enriquez	First detection of brown dwarfs with LOFAR	12	16.5
LC2_021	S. ter Veen	FRATs:Commencal Real-Time Searches and localization of Fast Radio Bursts	0	37
LC2_022	A. Karastergiou	ARTEMIS on LOFAR: real-time searches for Fast Radio Bursts with international LOFAR stations	0	0
LC2_023	S. Buitink	Radio detection of cosmic ray air showers	0	0
LC2_024	P. Best	A joint LOFAR deep field: Elais-N1	100	0
LC2_025	A. Bilious	A Full Census of the Known Pulsar Population: Extension to the Lowest Radio Frequencies	38	10
LC2_026	D. Stinebring	Millisecond Pulsar Scintillation: a Pilot Study	37.5	9.2
LC2_027	G. Mann	Energetic electron propagation in solar flares	24.2	75.6
LC2_028	G. Mann	Solar coronal mass ejections	35	36.5
LC2_029	G. Miley	Long Baseline Studies of High-Redshift Radio Sources: Constraining particle acceleration and cold gas	17	50
LC2_030	I. Mitsuishi	Exploring Merger-Induced Diffuse Radio Emissions in Groups of Galaxies	10	14.1
LC2_031	C. Marque	Solar noise storms in the decametric and metric range: a study with LOFAR and the Nancay Radioheliograph	22	22.9
LC2_032	S. Turriziani	Blazar monitoring with LOFAR	5	9.2
LC2_033	J. Magdalenic	Observations of solar type II radio bursts by LOFAR	16	48.7
LC2_034	J. Miller-Jones	Low-frequency radio emission from x-ray binaries	14	56.7
LC2_035	H. Reid	The LOFAR quiescent sun	12	15
LC2_036	R. Oonk	Probing the Galactic Interstellar Medium on Unprecedented Scales	70	110
LC2_037	B. Burningham	A low-frequeny survey for extrasolar auroral emission	25.5	76.7
LC2_038	H. Rottgering	LOFAR surveys: Opening up a new window on the Universe	275	468
LC2_039	R. Breton	LOFAR Observation of Eclipsing Binary Pulsars	50.6	102
LC2_040	J. E. Enriquez	A panchromatic search for advanced intelligence around nearby stars	15	5
LC2_041	I. Hoffman	Search for OH Maser Emission at 54 MHz in Galactic Star-forming Regions and Supernova	8	10
LC2_042	E. Varenius	Spectral turnovers in Arp220	7	10
LT2_001	L. Gurvits	Study of atomic hydrogen at z>5	12	6
LT2_002	R. Oonk	Extragalactic Radio Recombination Lines: An LTA resource project	0	0
LT2_003	J. Hessels	LOTAAS: The Lofar Tied-Array All-Sky Survey for Pulsars and Fast Transients	170	90.4

FIRST CONTACT WITH PI's

- Science Support works out the observing schedule for the upcoming Cycle. This is advertised on ASTRON website:

  http://www.astron.nl/radio-observatory/cycles/cycle-3-schedule/cycle-3-schedule



MB	WF	RAF	EO	CT / LC	MI	STV	ALL
Michiel Brentjens	Wilfred Frieswijk	Richard Fallows	Emanuela Orru'	Carmen Toribio Luciano Cerrigone	Marco Iacobelli	Sander ter Veen	

AR	AdJ	AS	JDM	JRP	NV	PD	WK
Adriaan Renting	Alwin de Jong	Arno Schoenmakers	Jan David Mol	Jan Rinze Peterzon	Nico Vermaas	Pieter Donker	Wouter Klijn

International Stations Requested — **International Stations Essential**

Week 46	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	MAINTENANCE
Approximate LST		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2				
November	10 Mon	LC2_019 - EoR NCP														LC2_039 - J2129-0428 - 8.9hrs										Manu			
	11 Tue	LC2_008 - 0917+075 - 8hrs																LC2_025 - RAs 19-21									RAF			
	12 Wed	LC2_007 - LSTs 0,2,4,6		LC2_025 - RAs 6-9			LC2_007 - LSTs 6,7,9,11					LT2_003 - LOTAAS				LC2_007 - LSTs 15-19			LC2_007 - LSTs 19				LC2_007 - LSTs 21,23	LC2_036 - L1407b - 8.5hrs		CT			
	13 Thu	LC2_036 - L1407b - 8.5hrs				LT2_001 - J1026+2542 - 4hrs – REPETITION - start 2.5h BEFORE TRANSIT										LC2_039 - J1810+1744 - 4.2hrs										RAF			
	14 Fri	LC2_025 - All RAs 0-4																LC3_028 - EoR NCP									MI			
	15 Sat	LC3_028 - EoR NCP												LT2_003 - LOTAAS																
	16 Sun															LC3_030 - RA 18					LC3_030 - RAs 22				LC3_036 - RAs 2,7				

e-VLBI session 18th November 09:00 UTC to 19th November 13:00 UTC

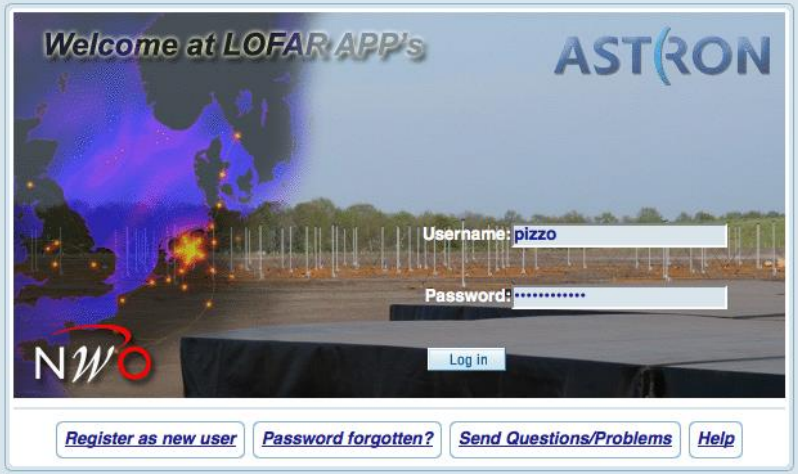
Week 47	UT	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Sup Sci on Duty	Softw. Eng. on Duty	Network Issues	MAINTENANCE
Approximate LST		4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3				
November	17 Mon			LC3_028 - EoR 3C196															*LC3_001 - M31 -10.5hrs*										
	18 Tue	*LC3_001 - M31 -10.5hrs*																LC3_028 - EoR NCP										e-VLBI from 09:00	
	19 Wed	LC3_028 - EoR NCP																										e-VLBI to 13:00	
	20 Thu																						LC2_036 - L1407b - LBA 4.25hrs						
	21 Fri	LC2_036 - L1407b - LBA 4.25hrs																LC3_032 - J2215+5135 - 4.9hrs											
	22 Sat			LC3_028 - EoR 3C196														LC3_028 - EoR NCP											
	23 Sun	LC3_028 - EoR NCP																											

- Contact e-mail to PI's -> preparation of observing templates in MoM

MoM: MANAGEMENT OF MEASURAMENTS

- https://lofar.astron.nl/mom3/
- Description available at

  https://lofar.astron.nl/mom3/help/mom2.jsp
- Reference tool for preparation and inspection of the observing/processing templates and status of observations and pipelines
- To have access, register as a new user
- After login, you will be able to see only the projects you are involved in



MoM PROJECTS

My Account | Help Index | Logout

Project List | Query List | Project Explorer | Preferences | Tools | Admin

Name : Description :

Status : opened active suspended finished

Filter | Explore selected

Viewing Projects (1 - 50 / 63)

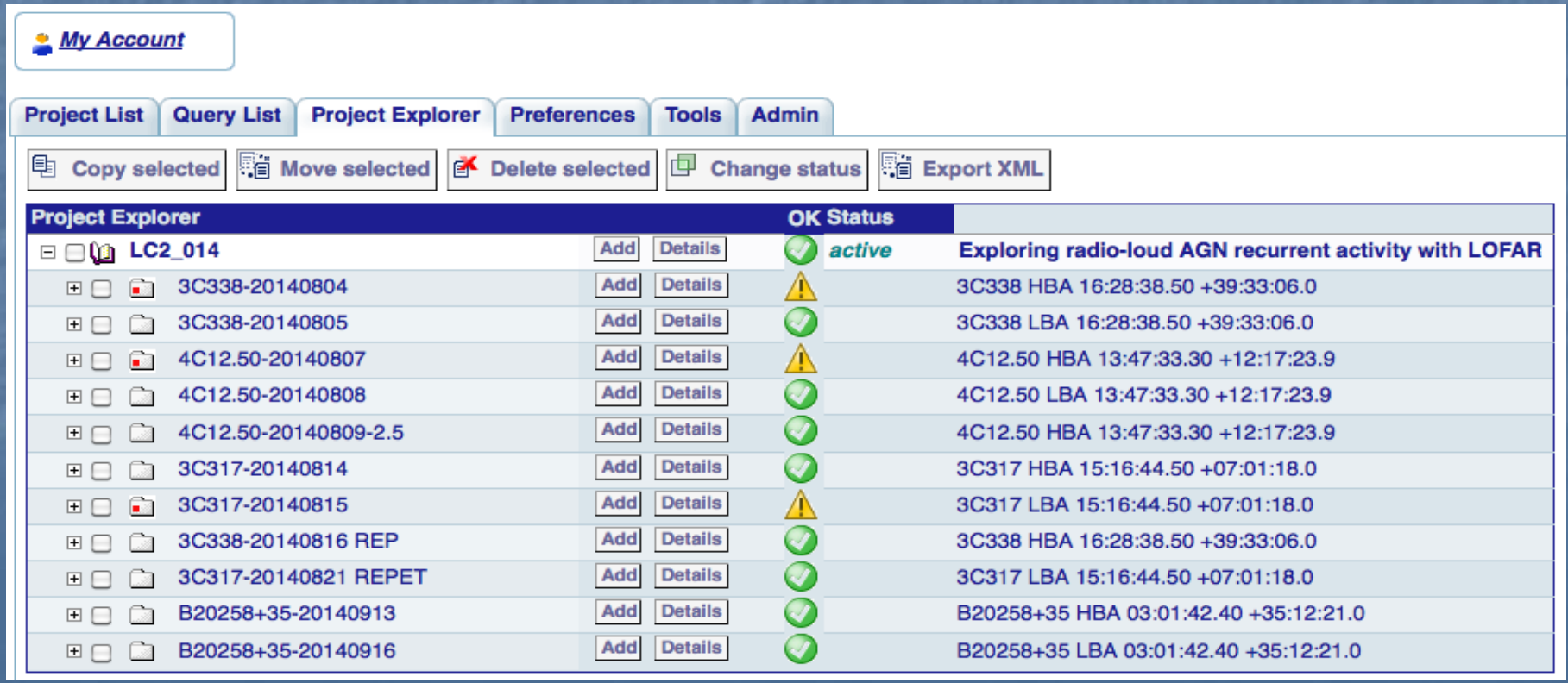
First Prev 1 2 Next Last

Name	Status	Description	PI	Friend	Role
2014LOFAROBS	active	2014LOFAROBS	Pizzo, Dr. Roberto Francesco	Orru, Dr Emanuela	Pi, Contact author
CITT_2014	active	Calibration and Imaging Tiger Team	Heald, Dr. George	Toribio, Dr Carmen	(extern)
COBALT	active	COBALT	Brentjens, Dr. Michiel	Pizzo, Dr. Roberto Francesco	Friend
Commissioning2014	active	Commissioning2014	Pizzo, Dr. Roberto Francesco	Toribio, Dr Carmen	Pi, Contact author
DDT002	active	Directors Discretionary time - Radio Recombination Lines Cas A	Oonk, Dr Raymond	van der Horst, Dr. Alexander Jonathan	(extern)
DDT2_001	active	Search for possible pulsar located at SNR CTA-1	Mulcahy, David	Fallows, Dr Richard	(extern)
DDT2_003	active	PS86X1-Interplanetary CubeSat and Thin-Film Spacecraft/Lander/Rover Communications and Navigation Pathfinder Experiment with LOFAR and the LuxSpace 4M Lunar Flyby Mission	Johnson, Michael	Iacobelli, Dr Marco	(extern)
IPS	active	Interplanetary Scintillation	Fallows, Dr Richard	Frieswijk, Dr Wilfred	(extern)
LC0_035	active	Targeted searches for pulsars and fast transients	van Leeuwen, Dr Joeri	Fallows, Dr Richard	(extern)
LC1_008	active	LOFAR blank-field surveys: AGN, star-formation and cosmology	Best, Professor Philip	Frieswijk, Dr Wilfred	(extern)
LC1_014	active	The flux density scale between 30 and 500 MHz	Scaife, Dr Anna	Fallows, Dr Richard	(extern)
LC1_020	active	Monitoring of the Crab pulsar	Wucknitz, Olaf	Frieswijk, Dr Wilfred	(extern)
LC1_040	active	Testing the IC/CMB Model for X-ray Emission from Quasar Jets with LOFAR	Harris, Daniel	Toribio, Dr Carmen	(extern)
LC1_052	active	LOTAAS: The LOFAR Tied-Array All-Sky Survey for Pulsars and Fast Transients	Hessels, Dr. Jason	Fallows, Dr Richard	(extern)
LC1_057	active	Observing the Interplanetary Magnetic Field with LOFAR	Fallows, Dr Richard	Fallows, Dr Richard	(extern)
LC2_002	active	Probing a Coronal Mass Ejection with Scintillation Arcs	Fallows, Dr Richard	Fallows, Dr Richard	(extern)
LC2_003	active	Monitoring Ionospheric Scintillation above LOFAR	Fallows, Dr Richard	Fallows, Dr Richard	(extern)
LC2_004	active	Measuring the energy of Saturn's lightning	Griessmeier, Dr Jean-Mathias	Fallows, Dr Richard	(extern)
LC2_005	active	Large-scale magnetic field connecting A399-A401	Govoni, Dr. Federica	Iacobelli, Dr Marco	Co-I
LC2_006	active	A search for p-H2CO, a potential EoR contaminant, toward the Galactic Center, W43, W44, W49, and M82	Ginsburg, Dr Adam	Toribio, Dr Carmen	(extern)
LC2_007	active	Continued LOFAR Timing of Discoveries from the GBNCC Pulsar Survey	Lynch, Dr. Ryan	Fallows, Dr Richard	(extern)
LC2_008	active	The mysterious giant radio source 0917+75	Giovannini, Prof. Gabriele	Iacobelli, Dr Marco	Co-I
LC2_009	active	Cosmic ray propagation in NGC 5033	Sendlinger, Katharina	Frieswijk, Dr Wilfred	(extern)
LC2_010	active	Pulsar Timing with LOFAR	Verbiest, Dr. Joris	Fallows, Dr Richard	(extern)
LC2_012	active	Probing the Stellar Flare-Coronal Mass Ejection Relationship	Osten, Dr. Rachel	Frieswijk, Dr Wilfred	(extern)
LC2_013	active	Extended radio continuum halo in the edge-on galaxy NGC5907	Miskolczi, Arpad	Toribio, Dr Carmen	Co-I
LC2_014	active	Exploring radio-loud AGN recurrent activity with LOFAR	Brienza, Marisa	Iacobelli, Dr Marco	(extern)
LC2_015	active	Wide-field searches for image-plane radio transients	Fender, Professor Rob	Toribio, Dr Carmen	(extern)
LC2_016	active	The first MHz observations of an ultra cool dwarf star	Ramsay, Dr Gavin	Iacobelli, Dr Marco	(extern)
LC2_017	active	LBA observations of M51 and NGC891	Mulcahy, David	Iacobelli, Dr Marco	(extern)

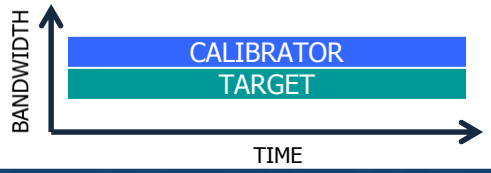
- Organized in folders
- Full inspection of observing observing setups might require some clicking – things will improve in the future

MoM: OBSERVATION FOLDERS

- Statuses:
  - Project: open, active, finished, suspended
  - Observations / pipelines: open, approved, scheduled, running, finished, aborted
  - Ingests: approved, scheduled, running, finished, aborted



MoM: MULTI BEAM OBSERVING SETUPS & DETAILS



My Account

Project List | Query List | Project Explorer | Preferences | Tools | Admin

Copy selected | Move selected | Delete selected | Change status | Export XML

Project Explorer		OK	Status	
LC2_014	Add Details	✓	active	Exploring radio-loud AGN recurrent activity with LOFAR
3C338-20140804	Add Details	⚠		3C338 HBA 16:28:38.50 +39:33:06.0
3C338-20140805	Add Details	✓		3C338 LBA 16:28:38.50 +39:33:06.0
3C338 20140805	Add Details	✓		LBA Outer, 10-90MHz, 8bits, 48MHz@46MHz, 1s, 64ch/sb(Imaging):
3C338/1/TO	Add Details	✓	finished	[239990] 3C338/1/TO (Target Observation)
3C295/1/CPT	Restart Details	✓	finished	[240808] 3C295/1/CPT (Cal Pipe Target)
3C338/1.0/TP	Restart Details	✓	finished	[240054] 3C338/1.0/TP (Target Pipeline)
3C338 20140805	Details	✓	finished	Data archived in Long Time Archive (Download)

My Account

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Copy selected | Move selected | Delete selected | Change status | Export XML

Project Explorer		OK	Status	
LC2_014	Add Details	✓	active	Exploring radio-loud AGN recurrent activity with LOFAR
3C338-20140804	Add Details	⚠		3C338 HBA 16:28:38.50 +39:33:06.0
3C338-20140805	Add Details	✓		3C338 LBA 16:28:38.50 +39:33:06.0
3C338 20140805	Add Details	✓		LBA Outer, 10-90MHz, 8bits, 48MHz@46MHz, 1s, 64ch/sb(Imaging):
3C338/1/TO	Add Details	✓		
3C338	Details	✓	finished	3C338
3C295	Details	✓	finished	3C295
3C295/1/CPT	Restart Details	✓	finished	[240808] 3C295/1/CPT (Cal Pipe Target)
3C338/1.0/TP	Restart Details	✓	finished	[240054] 3C338/1.0/TP (Target Pipeline)
3C338 20140805	Details	✓	finished	Data archived in Long Time Archive (Download)

Details

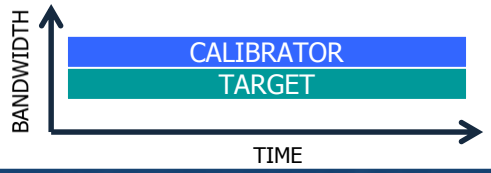
LC2_014 > 3C338-20140805 > 3C338 20140805 > 3C338/1/TO > 3C338 | Help | Close Window

General Info | Dataproducts | Reports and Remarks | Status History

Name:	3C338
Description:	3C338
Current status:	finished(2014/08/05 23:01 UTC)
Type:	BF Measurement
Project name:	LC2_014
Child of:	3C338/1/TO
MoMID	418133
Measurement Type	BF Measurement
Type	Target
(System) Ra	16:28:38.50
(System) Dec	+39:33:06.0
(System) Equinox	J2000
(System) Start time	2014/08/05 15:00:13
(System) End time	2014/08/05 23:00:57
(System) Duration	
(System) Central Frequency	46.09375 MHz
(System) Bandwidth	47.65625 MHz
(System) Subbands	114..357
(System) Online Coherent De-Dispersion (OCD)	false
(System) Tied Array Beam Flyseye	false
(System) Number of Tied Array Rings	0
(System) Tied Array Ring Size	0.0
(System) Coherent Array Beams	
(System) Incoherent Array Beams	
(Specification) Target name	3C338
(Specification) Ra	16:28:38.50
(Specification) Dec	+39:33:06.0
(Specification) Equinox	J2000
(Specification) Start time	N/A
(Specification) End time	N/A
(Specification) Duration	
(Specification) Duration Equals Observation	false
(Specification) Central Frequency	N/A
(Specification) Bandwidth	N/A
(Specification) Contiguous	false
(Specification) Subbands	114..357
(Specification) Online Coherent De-Dispersion	false
(Specification) Tied Array Beam Flyseye	false
(Specification) Number of Tied Array Rings	0
(Specification) Tied Array Ring Size	N/A
(Specification) Coherent Array Beams	
(Specification) Incoherent Array Beams	
Topology	mom_msss_418131.B0.1.T.SAP000

MoM: MULTI BEAM OBSERVING SETUPS & DETAILS

LOFAR



ASTRON

My Account

Project List | Query List | Project Explorer | Preferences | Tools | Admin

Copy selected | Move selected | Delete selected | Change status | Export XML

Project Explorer		OK	Status	
LC2_014	Add Details	✓	active	Exploring radio-loud AGN recurrent activity with LOFAR
3C338-20140804	Add Details	⚠		3C338 HBA 16:28:38.50 +39:33:06.0
3C338-20140805	Add Details	✓		3C338 LBA 16:28:38.50 +39:33:06.0
3C338 20140805	Add Details	✓		LBA Outer, 10-90MHz, 8bits, 48MHz@46MHz, 1s, 64ch/sb(Imaging):
3C338/1/TO	Add Details	✓	finished	[239990] 3C338/1/TO (Target Observation)
3C295/1/CPT	Restart Details			
3C338/1.0/TP	Restart Details	✓	finished	[240054] 3C338/1.0/TP (Target Pipeline)
3C338 20140805	Details	✓	finished	Data archived in Long Time Archive (Download)

My Account

Project List | Query List | Project Explorer | Preferences | Tools | Admin

Copy selected | Move selected | Delete selected | Change status | Export XML

Project Explorer		OK	Status	
LC2_014	Add Details	✓	active	Exploring radio-loud AGN recurrent activity with LOFAR
3C338-20140804	Add Details	⚠		3C338 HBA 16:28:38.50 +39:33:06.0
3C338-20140805	Add Details	✓		3C338 LBA 16:28:38.50 +39:33:06.0
3C338 20140805	Add Details	✓		LBA Outer, 10-90MHz, 8bits, 48MHz@46MHz, 1s, 64ch/sb(Imaging):
3C338/1/TO	Add Details	✓	finished	[239990] 3C338/1/TO (Target Observation)
3C338	Details	✓	finished	3C338
3C295	Details	✓	finished	3C295
3C295/1/CPT	Restart Details	✓	finished	[240808] 3C295/1/CPT (Cal Pipe Target)
3C338/1.0/TP	Restart Details	✓	finished	[240054] 3C338/1.0/TP (Target Pipeline)
3C338 20140805	Details	✓	finished	Data archived in Long Time Archive (Download)

Details

LC2_014 > 3C338-20140805 > 3C338 20140805 > 3C295/1/CPT | Help | Close Window

General Info | Parset | Dataproducts | Reports and Remarks | Status History

Name:	3C295/1/CPT
Description:	3C295/1/CPT (Cal Pipe Target)
Current status:	finished(2014/08/08 01:51 UTC)
Type:	Calibration Pipeline
Project name:	LC2_014
Child of:	3C338 20140805
mom2Id	418135
SAS_ID	240808
Start time	2014/08/07 11:48:49
End time	2014/08/08 01:51:15
Duration	50546.0
SAS Default Template	Calibrator Pipeline (no export)
(Frequency Integration Step)	N/A
(Time Integration Step)	N/A
Calibration Skymodel	3C295
Flagging Strategy	LBAdefault
ZeroPhase	true
Demixing Freq Step (demixing)	64
Demixing Time Step (demixing)	10
Averaging Freq Step (demixing)	16
Averaging Time Step (demixing)	5
Ignore Target (demixing)	false
Demix Always (demixing)	[CasA,CygA]
Demix If Needed (demixing)	[]
Baselines (BBS)	*&
Correlations (BBS)	[]
Beam Model enabled (BBS)	true
Solve Parms (BBS)	["Gain:0:0:*", "Gain:1:1:*"]
Solve UV Range (BBS)	[]
Strategy Baselines (BBS)	*&
Strategy Timerange (BBS)	[]
Topology	mom_msss_418131.B0.1.CPT
Predecessor	M418132

MoM: INTERLEAVED OBSERVING SETUPS

LOFAR

CAL TAR CAL TAR CAL TAR CAL

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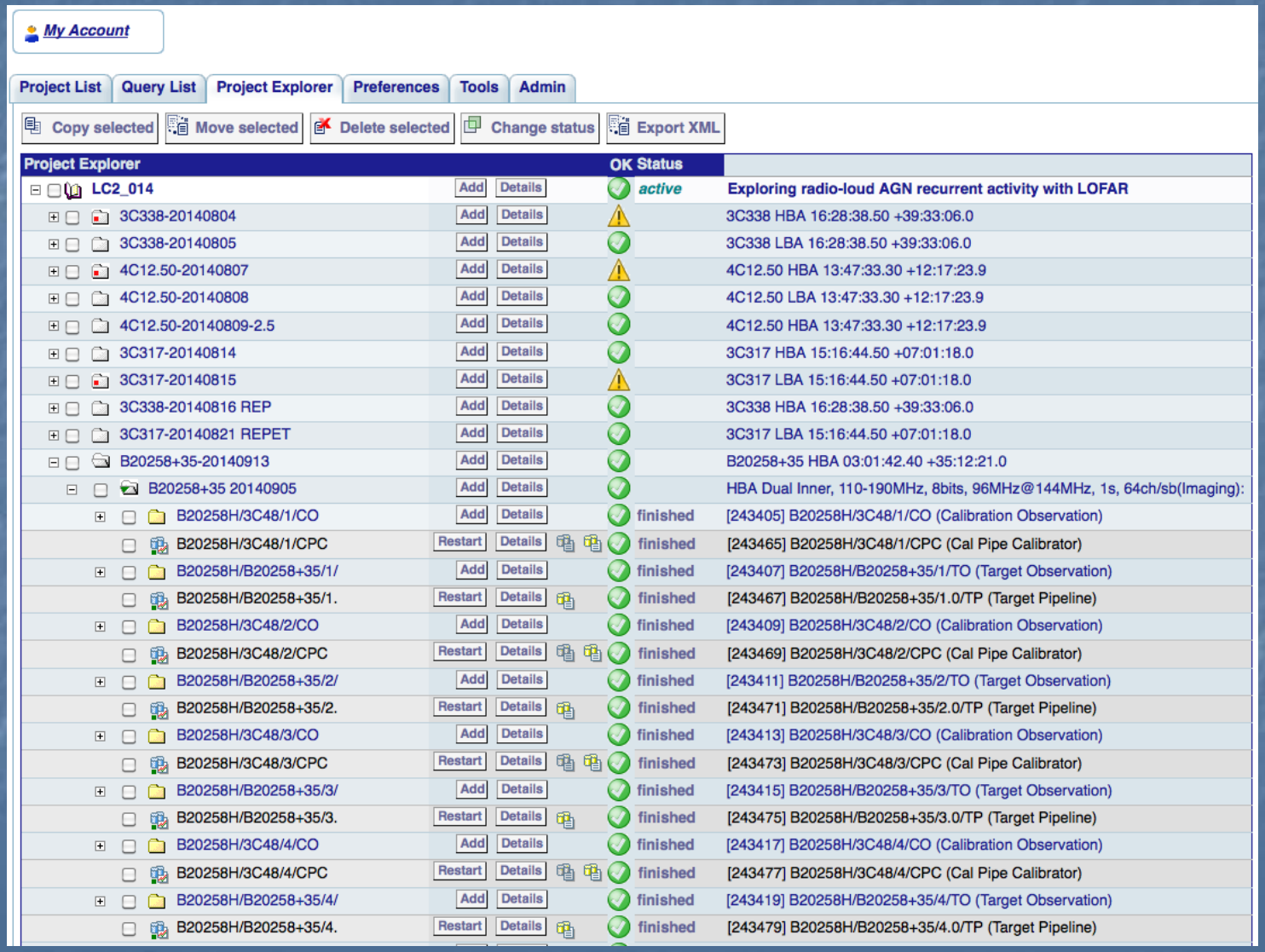
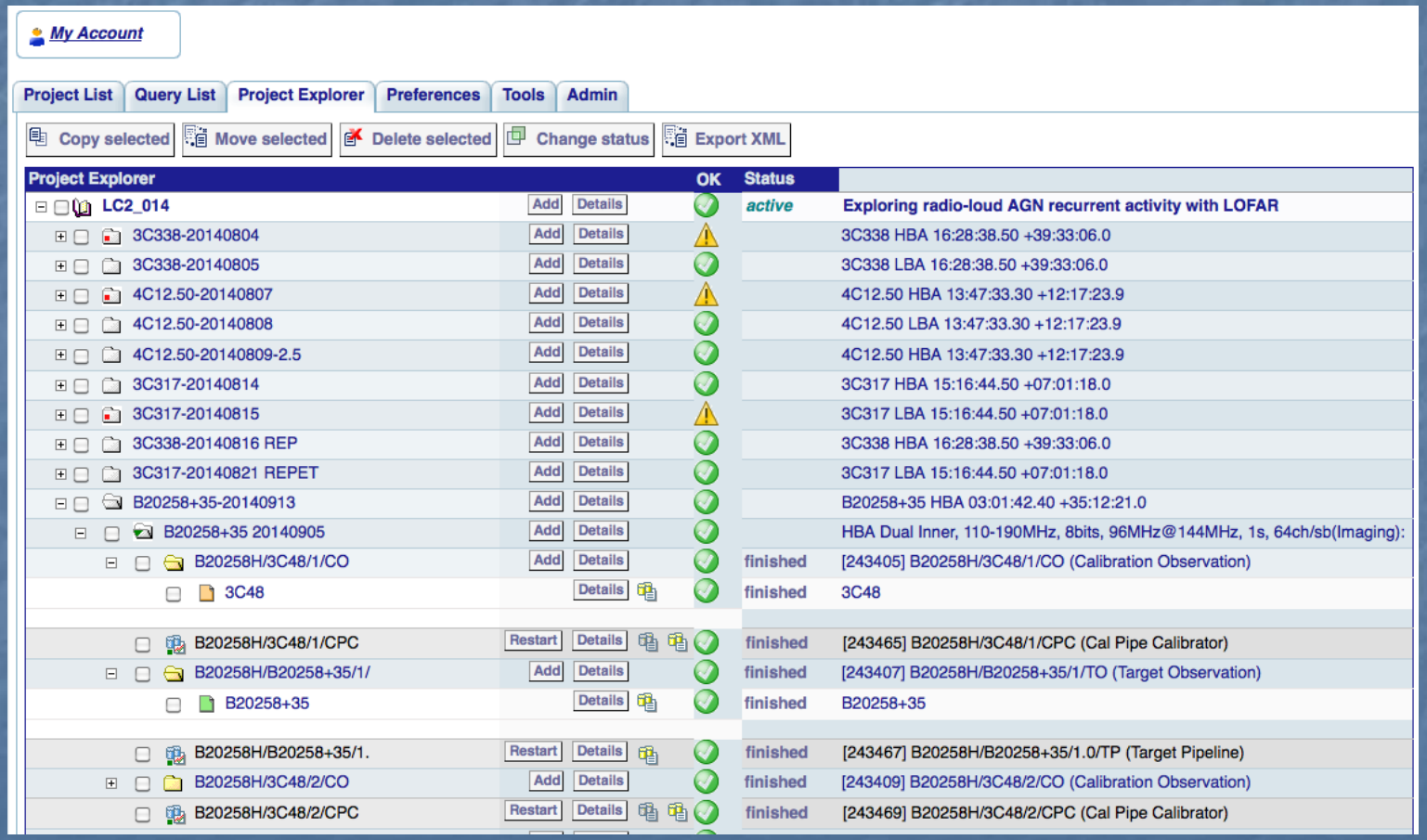


MoM: INTERLEAVED OBSERVING SETUPS

LOFAR

CAL TAR CAL TAR CAL TAR CAL

ASTRON



OBSERVATION PERFORMED: RO REPORT TO PI

Dear Colleague,

the following message contains information regarding a LOFAR Cycle 3 project for which you are listed as the contact author. Please, forward this information to the suitable individuals

We would like to inform you that an observation related to your LOFAR Cycle 3 project has been performed. Please find detailed information below

General notes: *-> any fundamental remarks*
Observations: *-> details of performed observations*
Performance of the system: *-> any issues to report with stations or CEP cluster?*
Data recording: *-> any data missing?*
Data processing: *-> status of processed data*
Archiving: *-> started or in the queue*

Remarks: please analyze the validation plots at https://proxy.lofar.eu/inspect/HTML/ within 24 hours after this notification and get in contact with sciencesupport@astron.nl in case you need to report problems about their quality. After this time window has passed, we will assume that your judgment is that the observation was successful and we will complete the actions described above to support your run. From the moment the data are made available to you at the LTA or, if requested, on CEP3, you will have two weeks available to check their quality and to report problems to the Observatory. After this time window has passed, no requests for re-observation will be considered

Actions: If you need any further clarification, please do not hesitate to contact us

RADIO OBSERVATORY OBSERVING POLICIES

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- http://www.astron.nl/radio-observatory/observing-capabilities/depth-technical-information/cycle-1-observing-and-processin
- Most relevant ones are:

I. In the case of malfunctioning stations or locus nodes, an observation will be considered failed if more than 5% of the data are missing on disk. Processing will be considered failed if more than 5% of the resulting processed data are missing with respect to the raw visibilities. In other cases, observations may be considered failed on a case-by-case basis, according to the science goals of the relevant proposal

II. The only raw data inspection available to users prior to data reduction is via the inspection plots which are created automatically immediately after the associated observation has finished

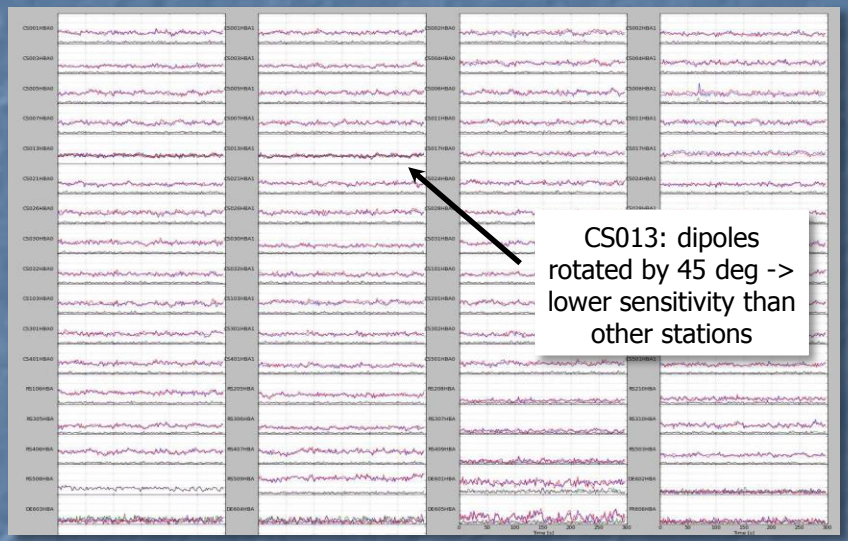
III. From the moment the data are made available to the users at the LTA or, if requested in the original proposal, on CEP1/CEP3, they will have two weeks available to check the quality of their data and report problems to the Observatory. After this time window has passed, no requests for re-observation will be considered

I. In the case that an observation is considered failed, it may be repeated only once if the observing schedule allows it.

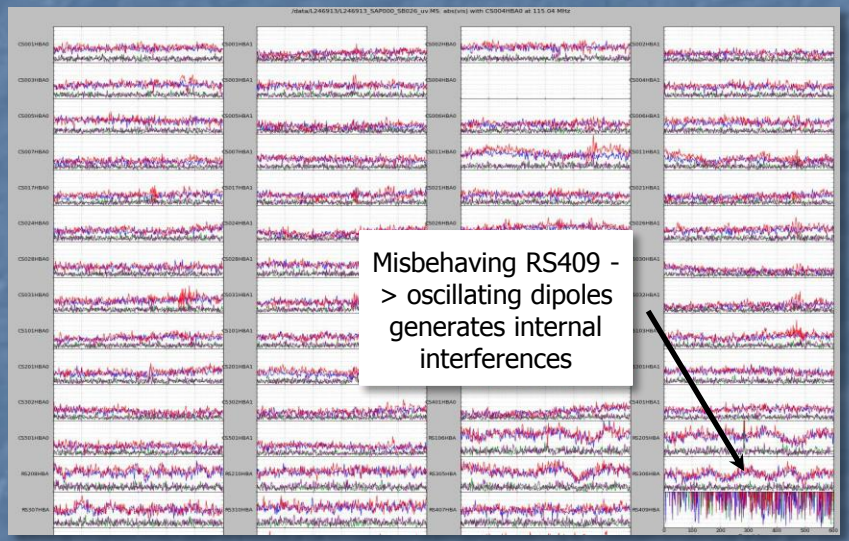
II. All Cycle projects that cannot be completed by the end of the Cycle they refer to will remain active only during the following semester and they will be observed then with second priority with respect to the new Cycle projects.

INSPECTION PLOTS: TIME SERIES

- See tutorial at http://www.astron.nl/radio-observatory/observing-capabilities/depth-technical-information/data-quality-inspection/data-qu

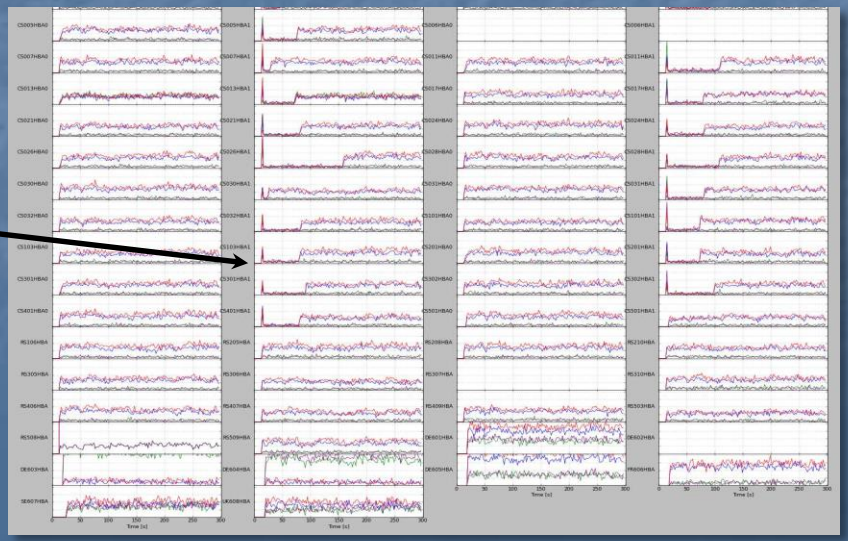


CS013: dipoles rotated by 45 deg -> lower sensitivity than other stations

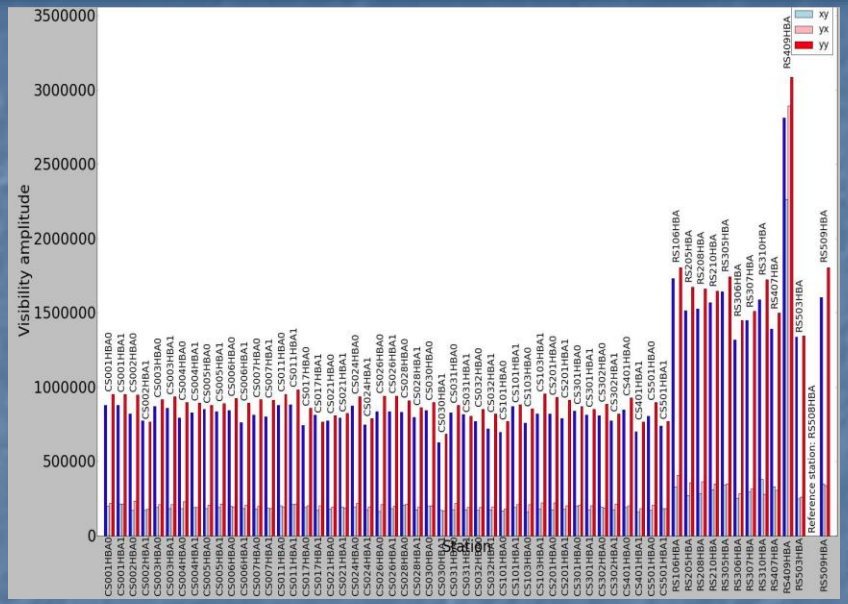


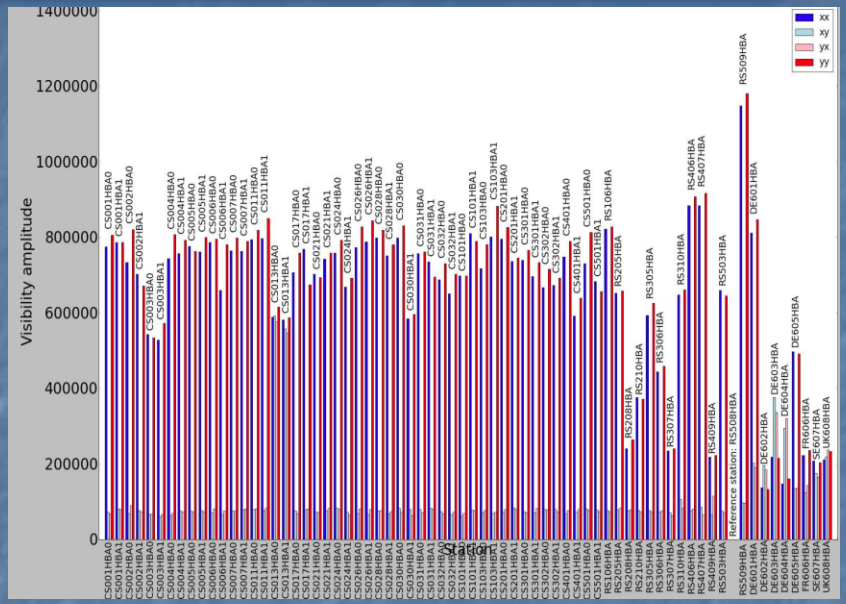
Misbehaving RS409 -> oscillating dipoles generates internal interferences

Connection problems at the beginning of the observation for all stations



INSPECTION PLOTS: VISIBILITY AMPLITUDE





- Stations with the same characteristics, e.g. all CS should have more or less the same amplitudes; when their values differ too much the sensitivity of the station is not good (in this case RS409)
- It is good to check on a long baseline a frequency with high S/N which is relatively clean of interferences (e.g. correlator SB 77 in HBA and 301-302 in LBA)
- A way to identify the presence of Solar bursts is to check if the amplitude visibilities scales of CS have much higher values than the remote station or CS in quiet conditions.
- Visibility amplitude 3C196 (resolved at long baselines)
- Different amplitudes values among RS and IS are due to the fact that some baselines detect and resolve source structure and some other do not.
- Knowing the layout of the telescope and the characteristics of the source are the key to interpret these plots.

See tutorial at http://www.astron.nl/radio-observatory/observing-capabilities/depth-technical-information/data-quality-inspection/data-qu

LTA: LONG-TERM ARCHIVE

- Ingests are initiated by Science Support / operators in MoM. Currently, the PI should actively check the status of the ingest in MoM
- LOFAR Tools: http://www.astron.nl/radio-observatory/lofar/lofar-tools/lofar-tools

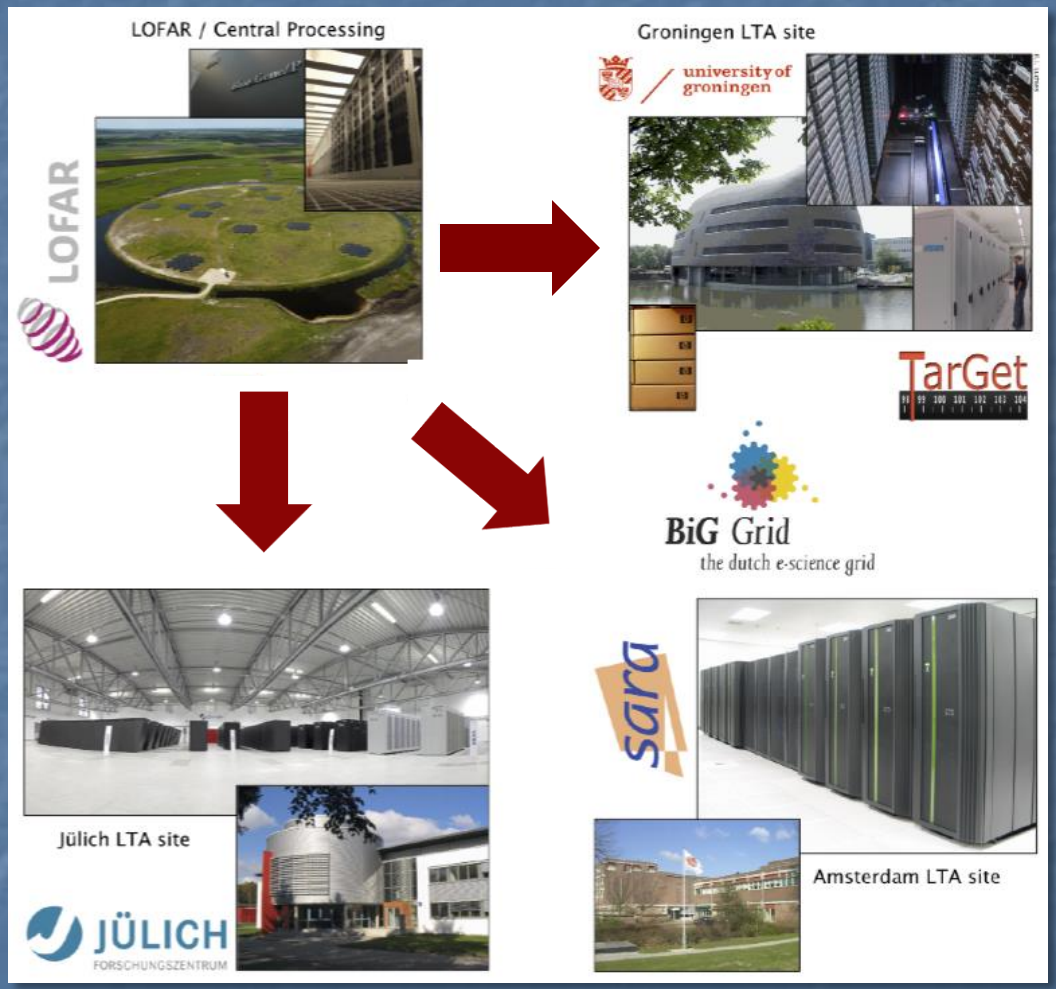
↓

ASTROWISE -> http://lofar.target.rug.nl/

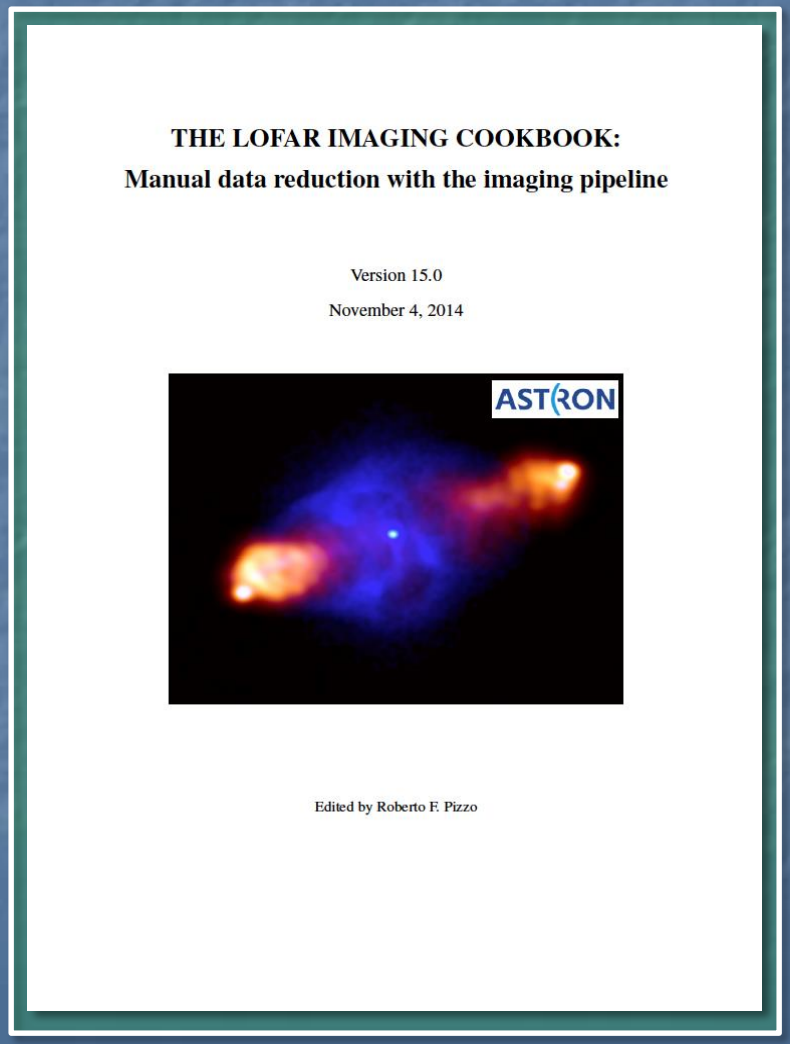
↓

HowTo -> http://www.lofar.org/wiki/doku.php?id=public:lta_howto

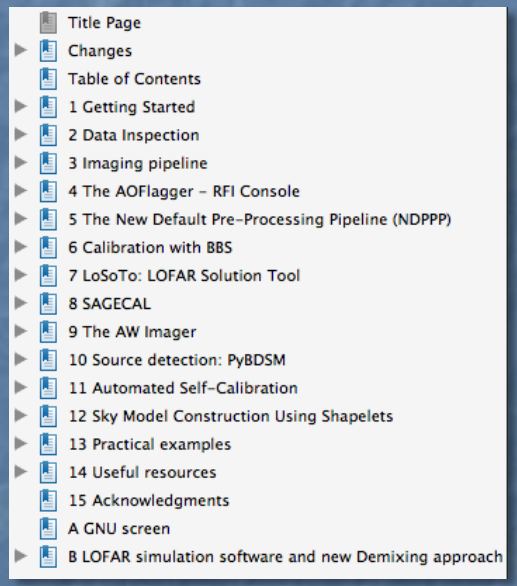
- See H. Holties' tutorial



INSPECT PROCESSED DATA: LOFAR IMAGING COOKBOOK



- http://www.astron.nl/radio-observatory/lofar/lofar-imaging-cookbook
- Important overview and description of tools to inspect, reduce, and analyze imaging data



- Editor R. F. Pizzo
- Authors: experienced LOFAR commissioners

CEP3: TIMELINE & POLICIES

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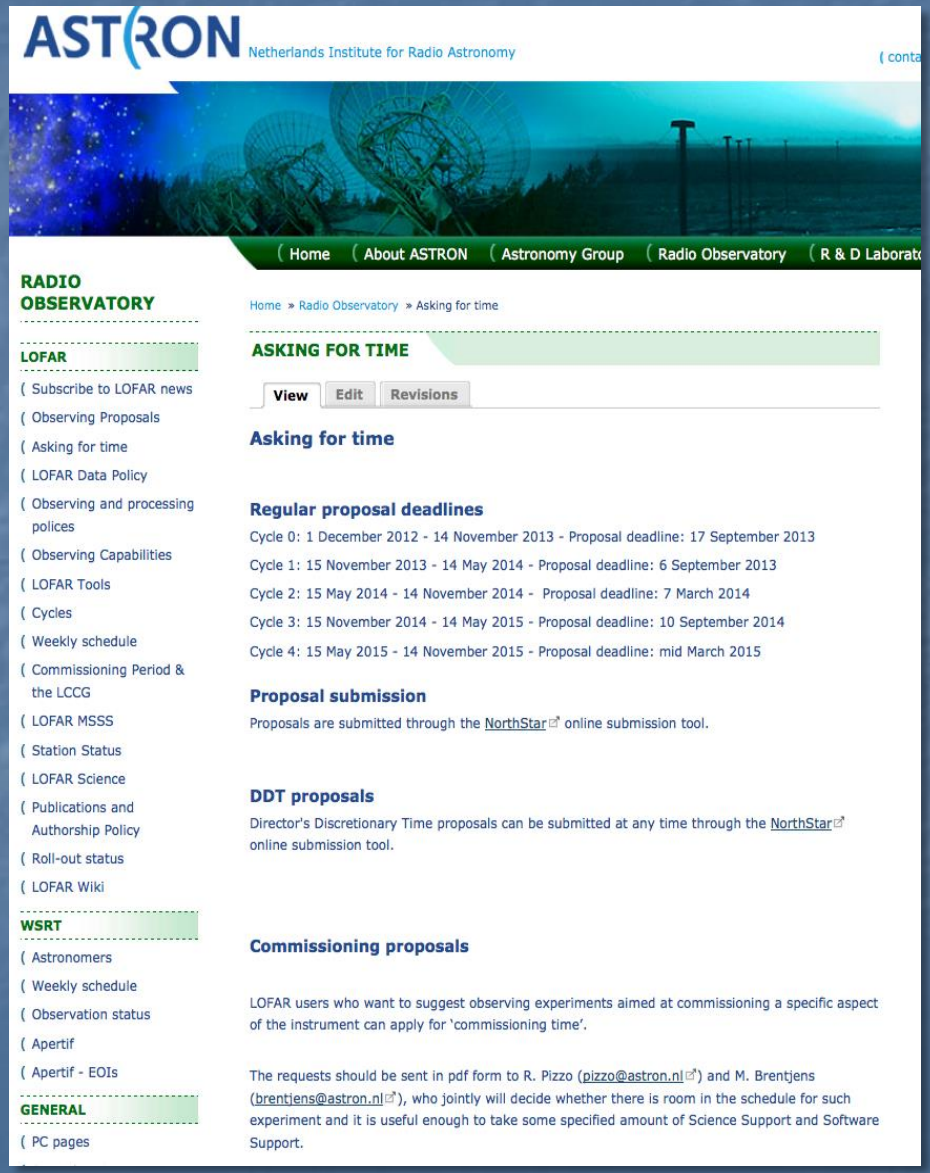
- CEP3 will be used to run the commissioning processing routines, testing production software and, in selected cases, to perform advanced Cycle processing by the Cycle users
- Observing, CEP2 processing time and the use of CEP3 are allocated by the LOFAR Programme Committee and the ILT director during the regular proposal evaluation stages, or under Director's Discretionary Time
- Access privileges limited in time (4 weeks by default). Automatic notification will be sent to users one week before the expiration of access privileges. Users can request extension of their access, in case this is justified. The user's data products generated on the CEP3 nodes will be removed regularly after the expiration of the access privileges
- SLURM (cluster management and job scheduling system) will be used in 2015. Till then, things will have to be managed in a semi-manual fashion
- Beta testers are currently commissioning the new cluster
- You will be using CEP3 for the School tutorials

APPLYING FOR COMMISSIONING TIME

- LOFAR users who want to suggest observing experiments aimed at commissioning specific aspects of the instrument can apply for 'commissioning time' at any moment
- Requests should be sent to R. Pizzo (pizzo@astron.nl) and M. Brentjens (brentjens@astron.nl), 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



THANKS