

Radio Observatory Report

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Development Work / Issues

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- SAS/MAC related :
 - CS103 and CS024 awaiting integration to SAS/MAC
 - Using both HBA fields in core stations (problem with HBA2 identified, solution implemented).
 - Continuing test of integration of SAS/MAC and MoM.
- Investigating GPS vs Rubidium clock stability.
- Working on scripts automatically generating inspection plots of every observation. Will be accessible through a web page
- Further development of MoM for interferometry and Beam Formed obs.

Observations last week

- Multiple observations involving most of the available stations at different configurations.
- Latter half of the week, HBA observations to test the SAS/MAC update.

- Test the flow of an observation starting with an astronomer defining a project, interaction with the Radio Observatory, data taking and the flow of processed data through the online and offline systems up to the data archive.
- Simulated an astronomer using MoM to describe an observation, interaction with RO support scientists and observers, and observations taking place under SAS/MAC (multiple observations).

FIRST RESULTS

- Many issues identified; some solved, others entered in CRAFT for further tracking
Definition of observations through MoM and SAS functioning Ok
- Interaction between observer, scientist, friend & scheduler going far more smoothly.
- Now able to schedule HBA through MoM & SAS
- Data management on the agenda
- Archiving of LOFAR datasets again in progress after a long period
- Will continue: simulations of processing (a “cut down” pipeline), data scrutiny and archiving of data.

ProjectExplorer	Status	MoM ID	Duration	Target name (Specification)	Measurement Type	Subbands
LEA/128	active			Long term LOFAR performance monitoring by deep integrations on standard fields		
Original				Imported from Northstar		
Verify: Done				Completed verification observations		
Cyg A test svn15007	finished			Interferometer Cyg A		
Cyg A test HBA_BOTH_	finished			Interferometer Cyg A		
Cyg A test HBA_BOTH	finished			Interferometer Cyg A		
Cyg A test HBA_1	successful			Interferometer Cyg A		
Cyg A test HBA	failed			Interferometer Cyg A		
_NCP LBA test	failed			Interferometer NCP		
_NCP LBA test_1	successful			Interferometer NCP		
Cyg A test new SAS	failed			Interferometer Cyg A		
Cyg A test new SAS_1	failed			Interferometer Cyg A		
Cyg A test new SAS_2	failed			Interferometer Cyg A		
Cyg A test new SAS_3	failed			Interferometer Cyg A		
Cyg A test new SAS_4	failed			Interferometer Cyg A		
Cyg A test new SAS_5	failed			Interferometer Cyg A		
Cyg A test new SAS_6	failed			Interferometer Cyg A		
Cyg A test new SAS_7	finished			Interferometer Cyg A		
Cyg A test new SAS_8	finished			Interferometer Cyg A		
Cyg A test new SAS_9	finished			Interferometer Cyg A		
Cyg A test HBA_One	described			Interferometer Cyg A		
Cyg A test HBA_Two	described			Interferometer Cyg A		
Cyg A test new SAS_1	finished			Interferometer Cyg A		
Cyg A test HBA_Two_1	finished			Interferometer Cyg A		
Cyg A test HBA_BOTH	failed			Interferometer Cyg A		
Cyg A test HBA_ONE	failed			Interferometer Cyg A		
Cyg A test HBA_TWO	failed			Interferometer Cyg A		
Cyg A test HBA_BOTH_	failed			Interferometer Cyg A		
Cyg A test HBA_BOTH_	failed			Interferometer Cyg A		
Cyg A test HBA_BOTH_	failed			Interferometer Cyg A		
DEV/Cyg A HBA Dutch	failed			Interferometer Cyg A		
DEV/Cyg A HBA Dutch	aborted			Interferometer Cyg A		
DEV/Cyg A HBA Dutch	finished			Interferometer Cyg A		
DEV/Cyg A HBA Dutch	finished			Interferometer Cyg A		
DEV/Cyg A HBA Dutch	suspended			Interferometer Cyg A		
Verify				Various short experiments to verify that SAS/MAC control works		
Prepare				Short preparatory runs		
Session_1				Main session of 9 x 6 hours		

Details

http://lcs023.control.lofar:8080/mom3/user/project/setupMom2ObjectDetails.do?view=generalinfo&mom2ObjectId=305

LEA/128 > Verify: Done > DEV/Cyg A HBA Dutch

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General info | Dataproducts | Reports and Remarks | Status history

Name:	DEV/Cyg A HBA Dutch
Description:	Interferometer Cyg A
Current status:	finished(2010/02/19 16:18 UTC)
Type:	Observation
Project name:	LEA/128
Child of:	Verify: Done
MoM ID	5626
Observation ID	6005
Stations	CS032,RS106,CS401,RS208,RS306,CS004,CS021,CS006,CS001,CS002,RS307,RS503,CS005,CS030,RS205,CS003,CS302,CS007
Integration Time	1.0
Instrument Filter	110-190 MHz
Clock	200 MHz
Antenna	HBA Both
Start time (UT)	2010/02/19 16:13:01
End time (UT)	2010/02/19 16:16:25
Station Set (Specification)	Custom
Custom stations (Specification)	CS001,CS002,CS003,CS004,CS005,CS006,CS007,CS021,CS030,CS032,CS302,CS401,RS106,RS205,RS208,RS306,RS307,RS503
Integration Time (Specification)	1.0
Instrument (Specification)	Interferometer
Instrument Filter (Specification)	110-190 MHz
Clock (Specification)	200 MHz
Antenna (Specification)	HBA Both

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Coordination of CEP offline resource usage

With increased number of stations, some observations require a large number of storage nodes to have sufficient bandwidth available for storing data.

Reshuffling of data is highly inefficient.

Simultaneous use of storage nodes for observing and processing expected to severely degrade the performance of the systems (will test this).

Current strategy of appointing subclusters to user groups is no longer sufficient

Solutions under consideration

- Keep `/data1` in each storage node free for observations - Process observations and move data out as soon as possible.
- Stick with the “dedicated” subcluster allocation for usual work *and*
- Allocate additional resources to larger observations for limited time (ie spare subclusters, all `/data1` partitions):
 - Assign generic accounts to user groups which will have permission to access the additional resources
 - Assign a “friend” of resources (support scientist)

Will consult with the user groups and implement a policy.

Current Observations



Control and Metadata Busy Week:

Test observations described by MoM and executed by
SAS/MAC