

Summary of Action Items from March 2014 run

We review the activities carried out during the last ARGOS commissioning run and we identified a set of AIs. At the same time we assigned a priority to each of those considering the impact that they will have on the activities planned for next ARGOS run. A summary table is reported below.

#	Action Item	Priority	Assigned to	Needed for
1.	BCU communication	1	MIC, MPE, OAA	Whole May run activities
2.	DX CalUnit alignment	1	MPIA	All May daytime activities
3.	Improve periscope control loop stability	1	MPE	All May nighttime activities
4.	Implement closed loop control of LGS position in ARGOS arbitrator	2	OAA, MPIA	Calibration and on-sky closed loop
5.	Implement LGSW-ASM Interaction Matrix	2	OAA, MPIA	Calibration and on-sky closed loop
6.	Implement lookup table to compensate LAN flexures	2	MPIA	On-sky closed loop
7.	Implement synthetic reconstructor	2	OAA	Alternative to on-sky closed loop
8.	Provide ARGOS terminal with Pyramid sensor and ASM functionalities	2	MPIA	All calibrations and closed loop operations
9.	Implement PYR to ARGOS TT control	2	OAA, MPIA	On-sky closed loop
10.	Pockels cells refurbishment, test and substitution	2	MPE	Replacement of DX cells at LBT
11.	Optimize jitter stabilization	3	OAA	
12.	Procedure to measure the LGS recentering algorithms efficiency	3	OAA	
13.	Fix bugs in LGSW startup sequence	3	OAA	
14.	Implement a general Snapshot mechanism	3	MPIA	
15.	Provide Ice interface for each subsystem controller	3	MPIA	
16.	Arbitrator implementation, GUI, ...	3	MPIA	
17.	laser power tests on laser test bench	3	MPE	
18.	Complete DX LGSW integration	4	OAA	
19.	Implement 2 separate startup sequences	4	MPIA	
20.	Installation of dust tube baffles	4	MPE	

Action Items description

1. BCU communication:
 - Setup 2 ARGOS BCUs test in Arcetri
 - Test between ARGOS BCUs & Switch BCU at Microgate
 - Test between ARGOS & Switch BCUs at LBT

2. DX CalUnit alignment with LGSW:
 - Check positioning reproducibility
 - Check spot on PatCams
 - Acquire LGSW slopes

3. Improve periscope control loop stability:
 - Implement offload of common periscope command to LM1
 - Improve stability of loop convergence on Field Camera position

4. Implement closed loop control of LGS position in ARGOS arbitrator:
 - Jitter offset offload
 - Quad-cell algorithm on PatCams
 - Gaussian fit algorithm on PatCams

5. Implement LGSW-ASM IM (needs #1 solved):
 - Write and test ASM control SW from ARGOS terminal
 - Implement IM acquisition with CalUnit (push-pull)
 - Implement sinusoidal modulation for the disturb to allow on-sky IM recording

6. Implement lookup table to compensate LAN flexures

7. Implement synthetic reconstructor:
 - Identify modal basis orientation

8. Provide ARGOS terminal with Pyramid sensor and ASM functionalities

9. Implement PYR to ARGOS TT control

10. SX Pockels cells refurbishment and test:
 - Setup an optical board to measure the cells suppression
 - Refurbish and test suppression of SX cells
 - 2nd test of the refurbished cells on SX LGSW at OAA (cold & gravity)

- Replace refurbished cells on DX LGSW at LBT

11. Optimize jitter stabilization:

- Measure PIs transfer function
- Reproduce Time History functionality within ARGOS SW
- Tune PI configuration parameters

12. Procedure to measure the LGS recentering algorithms efficiency:

13. Fix bugs in LGSW startup sequence

14. Implement general Snapshot mechanism:

- Design and implement a snapshot mechanism, available for all subsystems, including the arbitrator.

15. Provide Ice interface for each subsystem controller in order to implement the argos terminal:

16. Arbitrator implementation, GUI, etc..

17. Laser power tests on laser test bench (reason for weak lasers in SX system)

18. Complete DX LGSW integration:

- cable cover and roll bar installation

19. Implement 2 separate startup sequences for on-sky and internal sources (PupilMotors reference positions, Subapertures definition, SlopeOffset, PupilStabilizer target, ...)

20. Installation of dust tube baffles

Planned activities for May 2014 run

ARGOS to Switch BCU communication is a showstopper for the execution of the whole May run.

Working and aligned CalUnit is a showstopper for the DayTime activities #1 and 2.

DAYTIME:

1. Check performance of LGS recentering loops (MPE)
2. LGSW-ASM IM measurement (OAA)

3. Test communication between PYR and ARGOS BCUs (setup a FLAO-ASM close loop with retroreflector) (OAA)

NIGHTTIME

1. Check functionality LAN lookup tables (MPIA)
2. Check LGS recentering loop performance (MPE, OAA)
3. Close TT loop with PYR passing through the ARGOS BCU (OAA)
4. On-sky closed loop on LGS (OAA)
5. Record an on-sky IM (OAA) (Maybe not needed, this is alternative to the #2 in Daytime activity above)
6. Record LUCI spectrum with/without dichroic (MPE)
7. Measure LGS signal vs. laser power and Zenith distance (MPE, OAA)
8. Check laser light on PYR and guider