

Minutes of SHARK-NIR (SN) ComRun1 Post-run Meeting

January 26, 2023

Attendees: Maria, Jacopo, Alessandro, Alessandro, Daniele, Davide G., Davide R., Fulvio, Dino, Elena, Glenn, Jenny, Joe, John, Luca, Matthieu, Steve, Christian, Kalyan, Elliott, Greg, Xianyu, Al

- 1) ComRun1
 - a) Open 3 out of 6 nights.
 - b) Seeing from marginal to good.
 - c) Most commissioning tasks planned for the run were accomplished.
 - d) Observing a globular cluster to characterize distortion was postponed until May when better candidates will be available.
 - e) Observations with one of the coronagraphs (Gaussian Lyot) were carried out.
 - f) The main results from the run will be sent in the next few days.
- 2) Offsets
 - a) An email clarifying the ICE language of offsets is given [here](#).
 - b) The appropriate ICE IIF command for each of four cases is given in the table below.

	XY offsets	Z offsets for focus sweep and/or NCPA/PD calibration
Closed dome	<i>OffsetXYAO</i>	<i>OffsetZAO</i> ¹
On-sky	<i>OffsetPointing2</i>	<i>OffsetFocus</i> ²

- c) Closed dome:
 - i) XY offsets: It is currently possible to send these from the SN software using *OffsetXYAO*.
 - ii) Z offsets: It is not yet possible to send these from the SN software using *OffsetZAO* due to implementation issues.
- d) On-sky:³
 - i) XY offsets: It is currently possible to send these from the SN software using *OffsetPointing2*.
 - ii) Z Offsets: The “*OffsetFocus*” IIF command does not yet exist. Internal discussions will take place at LBT about a potential implementation. If that implementation is not ready in time for ComRun2, we will fall back to the work-around that involves manual steps in coordination with the OSA and the AO support staff.

¹ See discussion below.

² Does not yet exist. See discussion below.

³ For on sky (i.e., when a preset is active) *OffsetPointing2* is, and *OffsetFocus* will be: “AO aware.” For example, they will handle pausing and resuming loops when necessary.

- 3) Frost
 - a) The frost events are consistent with a known problem with this generation of the camera from First Light Imaging.
 - b) The camera will be replaced (for free) with the newer generation camera that solves this issue.
 - c) In the meantime, glycol temperatures will be set to a temperature that avoids the problem.
- 4) Pacman
 - a) The “pacman” feature seen in out of focus images (see [email](#)) is being investigated.
 - b) The spiders are sometimes evident in LBTI pupil images as well (in good seeing conditions).
- 5) Presets
 - a) Knowing which instrument is authorized on DX could be useful in the SN software (e.g., which type of preset to use on SX might be different if DX is “None” vs “LBTI” or “SHARK-VIS”).
 - b) Steve showed a mock-up that Paul produced to get a better understanding of the SN requested changes.
 - c) This led to a more general discussion of:
 - i) Whether a generic tool that has pulldowns listing each instrument and an asynch-vs-synch selection could be useful.⁴
 - ii) If it is better to use such a generic tool, or better for each instrument to “stay in their lane,” or (more likely) there are circumstances where one or the other is a better approach.
 - d) These topics will be revisited at the AO/SW meeting on Friday.
- 6) ComRun2
 - a) March 6-8
 - b) Six-person team
- 7) ComRun4
 - a) The date estimate for the SX AdSec return to the telescope in 2023B will be communicated to the SN team once the schedule has been established.
- 8) Date and time of next meeting: February 21, 0900 MST / 1700 CET.

⁴ There was general agreement that such a generic tool would be best implemented as a TCS feature and not come from LBTI.