

Minutes of SHARK-NIR/LBT Pre-Com-1 Follow-up Meeting

July 25, 2022

Attendees: Barry, John, Matthieu, Davide R., Joe, Paul, Glenn, James, Maria, Davide G., Luca, Simone, Steve, Brandon, David, Elena, Pat

1. Pre-Com-1
 - a. Details of the run can be found in the [daily report](#) and [run summary](#)
 - b. A few highlights that were mentioned:
 - i. No post-shipping re-alignment was needed.
 - ii. The phase diversity method for calibrating NCPA has been improved thanks to the installation of two new lenses.
 - iii. The test of software to acquire SOUL images was delayed due to Alfio being busy with commissioning another instrument for ESO. This will be carried out remotely before the next visit.
 - iv. We briefly discussed an issue which occurred the very last day and led people to leave the mountain at 8 pm. One of the rotatory wheels of the instrument (filter wheels) was stuck and in order to solve the problem it had to be dismounted and the shaft was ground with a dremel and sandpaper. We are currently investigating the causes of this to understand if this could potentially occur on other wheels. If that is confirmed, we might need a few extra days (a week TBC) of work to be performed in the electronics lab.
2. Technical discussions with LBT staff:
 - a. Glycol: Near the end of Pre-Com-1 Luca provided Jay with a sample glycol that can be used to provide the necessary attachment points at the SX/LBTI focal station.
 - b. LN2:
 - i. Details of the liquid nitrogen connection were also discussed with summit staff near the end of Pre-Com-1.
 - ii. The existing LBTI fill line would be split to allow LN2 to flow to SHARK-NIR; then that line would be split again to allow LN2 to flow to the two SHARK-NIR fill ports.
 - iii. The question of LN2 venting and spill risk was raised (raid #37).¹
 - iv. James will work with Elliot on this.
 - c. Clean Air Lines
 - i. A [schematic](#) has been produced to define the connections.
 - ii. A remotely operated (motorized) valve is proposed. The valve control would be energized via the SHARK-NIR power distribution unit (PDU).²
 - d. Soft cover over SOUL
 - i. Steve Ertel will touch base with Grant West about the soft cover for SOUL (raid #35)

¹ A review of all items on the [RAID list](#) is underway.

² In email following the meeting John Hill questioned the need for this. That discussion is on-going.

[Post-meeting note: as agreed at the videocon, on July 26th Luca sent 4 emails, one for each topic, to have a detailed description and follow-up for each topic (2a,b,c,d above)]

3. 14-July software discussion
 - a. Matthieu will work with Yang to sync up the current TCS with the simulator. This will include the SHARK-NIR ID for authorizing the instrument prior to TCS operations like presets. This has already been implemented in the real TCS.
 - b. Because SHARK-NIR has its own identifier for authorizing itself with TCS, it will be possible to make changes to the configuration that might not be the same as for LBTI. (At this point we can't think of any, but it's good to be prepared for a difference (e.g., tertiary angle)).
4. Pre-Com-2
 - a. Pre-Com-2 includes all <steps to install and align SHARK-NIR (including electronics) on the telescope>
 - b. In addition, a few days work are needed at the beginning.
 - i. Installing cables into the cable chain.
 - c. After some discussion, we determined that these could be carried out in the E-lab. This is desirable because the DX AdSec is likely to still be in the clean room in October. The E-lab provides filtered air same as the clean room, but, unlike the clean room, the E-lab is not kept at positive pressure. The area will need to be prepared beforehand.
 - d. Personnel on the two platforms was discussed:
 - i. The fall risk is higher for the platform over the instrument.
 - ii. The platform over M1 is referred to as the "yellow" platform.
 - iii. It is very likely that SHARK-NIR will need to be on both platforms for alignment tasks.
 - iv. Discussions of possible training for SHARK-NIR personnel at the beginning of Pre-Com-2 are on-going (with David C.). [Post-meeting discussions occurred to clarify that INAF team believes that a minimum of 3 people should be trained.]
 - e. We tentatively set the dates for Pre-Com-2 to be 03-Oct-2022 through 16-Oct-2022. The actual duration of the run needs to be re-evaluated by the SHARK_NIR team.
5. Pre-Com-3
 - a. The <Pre-Com-3 tasks> are all daytime and will require telescope restrictions (e.g., locked out, quiet and moving in elevation).
 - b. Pre-Com-3 dates are TBD, but must come between Pre-Com-2 (October) and Com-Run-1 (January). For Pre-Com-3, mid-November will be penciled in on the telescope calendar.
6. Com-Run-1
 - a. Dates are tentatively set for 6-11 January 2023.
7. Date and Time of Next Meeting: Late August or early September.