

# Minutes of SHARK-NIR Planning Meeting

November 16, 2023

*Attendees:* Luca, Jacopo, Maria, Alessandro L., Daniele, Davide R., John, Fulvio, Glenn, Joe, Al, Brandon, Xianyu, Elena, Simone, Matthieu, Kalyan, Manny, Robert, Steve, Valentina, Domenico

## 1. Run Summary

- a. The shutter problem was resolved before the run by replacing a cable.
- b. That cable is outside the cable chain but will be re-routed into the cable chain the next time SN comes off the telescope.
- c. About 2 out of the 6 nights were lost to weather.
- d. Many periods of usable seeing (at or better than 1.2 arcsecond).
- e. Very happy with the progress.
- f. Residual jitter of order 100 mas prevented using phase diversity for measuring NCPA; a sweep using low modes (i.e, the LUCI method) was used.
- g. SN team is working with Enrico to analyze why residual jitter was higher than normal. A closer look at the data is needed before drawing conclusions.
- h. Software problems requiring frequent restarts were also a problem.
- i. These problems were exacerbated by high network traffic.
- j. Changes have been made to the software that should make it more robust to high network loads.
- k. The LBTI observations went well, being also able to take advantage of better than average seeing conditions.
- l. Most of the time went to science targets.
- m. Toward the end of an observation that required more time for LBTI than for SN, technical commissioning of SN was performed.
- n. In this mode, the remaining shaped and the 4-quadrant pupil masks were tested.
- o. The only mode not yet tested is dual-band imaging.

## 2. Upcoming INAF Run

- a. SN will share any SV time that is scheduled in disruptive mode.
- b. This will be done in parasitic mode, with SV choosing the targets.
- c. Enrico may join to help diagnose the high residual jitter problem.
- d. There is the possibility that this problem is differential, only seen by SN (due to differential flexure, for example).

## 3. Fourier Mode

- a. The new command was tested and works well.
- b. SN team can now apply and remove Fourier mode at will with no extra staff support required from LBT.

## 4. Presets

- a. LBT web-based GUI is in the works.
- b. Use IRAF work-around in the meantime.
- c. LBTI has meantime extended their GUI to include the position angle option.
- d. This can be tested with the simulator and during closed dome daytime; and should be ready for the December run.

5. Large Offsets
  - a. There was one occurrence of this problem during the run.
  - b. The AO command is still being used, however there are plans to use the TCS command in the future to avoid the problem (as suggested at the previous meeting).
6. December Run
  - a. 29-Dec to 4-Jan (minus 2-Jan = INAF) = 6 nights.
  - b. Most of the team will participate remotely from Italy.
  - c. Two persons (Tania and Simone) will be at LBT, plus possibly one other.
  - d. The time will be shared with LBTI.
  - e. Just as was done for the October run: Toward the end of each observation that requires more time for LBTI than for SN, technical commissioning of SN will be performed.
7. 2024A
  - a. A run during early February to catch the last opportunity for Taurus-Auriga will be requested.
  - b. A second run for other targets later in the spring will be requested.
  - c. Of the 3 partners contributing nights, AZ, Max Planck, and INAF, Max Planck will likely use all their time for exoplanets (Taurus-Auriga).
  - d. Any additional time granted by the TACs based on other proposals will occur during the SN blocks.
  - e. In general, SN will be scheduled for science in the same way as LBTI; in dedicated blocks specific to the instrument.
8. Date and time of next meeting: December 14, 0900 MST