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End of SHARK-NIR Pre-Com-Run1

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Dear all, the run is almost finished, tomorrow afternoon we will leave LBT. Today we have moved the SHARK-NIR instrument inside the Electronic shop 116, in the position suggested by Mark and Alessandro.

The instrument is plugged to the power and to the network, to allow to do remote testing of the SW, although it will be kept warm till the end of the summer shutdown, when possibly we would like to have it cold to do also some performance test. The clean lab is cleared from SHARK-NIR equipment, and all the metallic zarges boxes are loaded on a trolley ready to be stored (the other boxes were already stored before).

We installed in lab 116 a webcam looking at the instrument with the purpose to check the instrument derotation during remote testing.

The monitor, the keyboard and the mouse lent from LBT are on the desk in the lab (thanks).

Overall, the run has been very successful, all the activities foreseen have been carried out (with the exception of a test foreseen with SOUL, trying to grab some images from our SW, Alfio was busy in Paranal, we will do it as soon as possible).

We also anticipated some work, foreseen for pre-com-run-3, concerning the check and optimization of the coronagraphic masks centring. In short:

- The instrument didn't need any re-alignment (NCPA of the instrument of the order of 35nm, as they were in Padova) after the shipping (NCPA of the instrument of the order of 35nm, as they were in Padova) and everything was functionally working
- The workstations have been installed in the server room and the instrument has been successfully connected to the network; also, we did test successfully the accessibility from outside the LBTO network using the VPN.
- We upgraded the Phase Diversity technique (to measure the instrument NCPA) installing two new lenses in the apodizers filter wheel (to collect more out of focus images), and it is now working better than before, sensing about 20 modes in a reliable and very accurate way.
- The new DM has been tested and is performing very good too.

- The internal fast TT loop is working as it was in Padova
- The SCICAM is working very good, and the movement of the detector while rotating the instrument bearing has decreased of a factor about 2, after the maintenance/ performed at SO.
- The coronagraphic performance is very good with the Gaussian and Shaped Pupils masks, while we still have some problems in properly centring the FQPM mask, we will address this issue when the camera will be back cold.
- The instrument has been vacuum cleaned and closed with the carter protection
- The final optical quality is excellent both on and off axis: after measuring the NCPA with the phase diversity and removing them with the internal DM, the residual wavefront error is less than 10nm, giving in Y band a Strehl of the order of 99% (see attached PSF image).

More details can be found in the report at the usual link: <https://docs.google.com/document/d/1X1dkz5JAI9Ss7tQjugFbAjY1Jymtiy5gCBOZJ2f-s2Q/edit#>

The instrument is thus ready to be installed at the telescope, as foreseen in pre-com-run-2, and we can plan for that.

We had some discussions with Mike, Jay, Joe, Jared, Rick and Leroy concerning a few things to be prepared for the next pre-com-run, but we will address them in separate mails.

Thanks a lot to all the LBT crew for the support, it's a pleasure to work here!

And thanks a lot to the SHARK-NIR team, 10 persons in total participated to the activities, and it has been a long and exhausting run, but we are all very happy!

See you soon!

The SHARK-NIR team

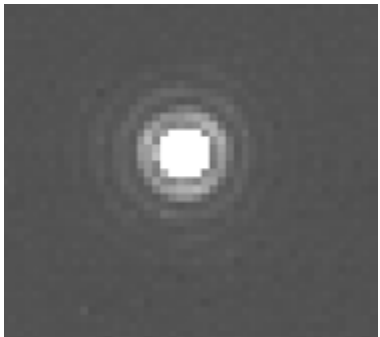
6 attachments



SHARK-NIR_Zarges_Boxes.jpg.jpeg
85K



LBT_Monitor-Mouse-Keyboard.jpg.jpeg
76K



SHARK-NIR_PSF.JPG
17K



SHARK-NIR_in_Electronic_Lab_116.jpg
323K



Moving_SHARK-NIR_in_Electronic_Lab_116.jpg
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WebCam_in_Electronic_Lab_116.jpg
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