

## Log CHARA/VEGA 2018-06-29

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UT03h10: arrival and setup, humidity around 40%. We have problems to connect to TigerVNC, necessary to restart computer to improve it.

### **V67 S2POP3B1-W2POP5B2-W1POP2B3**

Target=HD 124553

CAL1=HD 123255 and CAL2=HD 129956

LABAO and check star=HD 130109

UT03h25: LABOA is done

UT04h20: we have difficulties to find fringes with the check star. Seeing is not very good, around 6 cm.

UT04h43: we finally find fringes on CLIMB and VEGA, cophasing.

UT04h51: cophasing is finished and we slew on calibrator 1. We aim to do 3 CAL-SCI-CAL.

UT05h20: issues with blue camera, we do not have photons in the camera blue, trying to solve. Tracking on CLIMB is poor.

UT05h25: we record with 20 blocks. **HD123255.2018.06.29.05.22**. Seeing around 7 cm. S2 = -5970 microns, W2 = -5490 microns, B1 = 7.339 mm, B2 = 5.748 mm. Bad tracking on CLIMB. Fringes on VEGA for sure in W1W2, not sure for the other baselines. Faint fringes on CLIMB. It is not a good record.

UT05h35: we slew on the target star HD 124553. We record with 20 blocks. **HD124553.2018.06.29.05.35**. S2 = -5800 microns, W2 = -5380 micron. B1 = 7.339 mm, B2 = 5.748 mm. Tracking is bad here too, the fringes are not stable on CLIMB, faint on VEGA. Low flux level. Seeing ~ 9 cm.

UT05h45: we go to CAL 1. Recording with 20 blocks. **HD123255.2018.06.29.05.53**. S2 = -6200 microns, W2 = -5710 microns, B1 = 7.319 mm, B2 = 5.748 mm. Seeing ~ 6 cm. We see fringe W2S2 on VEGA, not sure for the others baselines. We see W1W2 at the end.

UT06h05: target. **HD124553.2018.06.29.06.05**. S2 = -6145 microns, W2 = -5600 microns. Seeing ~ 8 cm. Tracking on CLIMB is a little better than at the beginning. Not great. SNR on VEGA about 1.5-2.0.

UT06h15: CAL 1. Recording. **HD123255.2018.06.29.06.21**. S2 = -6450 microns, W2 = -5930 microns, B2 = 5.8085 mm. R0 ~ 5-6 cm. Tracking on CLIMB is still not great. In block 15 up to the end, we have problems with delay in S2, no fringes on VEGA/CLIMB.

UT06h32: target. **HD124553.2018.06.29.06.41**. S2 = -6420 microns, W2 = -5880 microns.

Poor tracking, not stable fringes on CLIMB.

UT06h55: we go to CAL2. **HD129956.2018.06.29.06.55**. S2 = -6040 microns, E2 = -5520 microns. Seeing ~ 5-6 cm. Last record for this program tonight.

**Spectral calibration: D\_CM720.2018.06.29.07.05**

**V01 W1POP2B3-S1POP4B2**

UT07h04: we change to program V01 with target HD 189733. We use the same stars for LABAO and check as in the last night: HD 186791 (LABAO) and HD 195810 (check). CAL1 = HD 190993 and CAL2 = HD 196740

UT07h15: LABAO is finished, slew on check star.

UT07h30: NIRO crash.

UT07h37: fringes on CLIMB for the check star.

UT07h43: we lost fringes on CLIMB. No fringes on VEGA/CLIMB.

UT07h47: fringes on VEGA, doing cophasing.

UT08h00: we slew on calibrator 1. Fringes on VEGA/CLIMB. Recording with 30 blocks. **HD190993.2018.06.29.08.02**. Offset S1 = -5668 microns, CLIMB B1 = 7.3191 mm, CLIMB B2 = 4.4886. r0 ~ 9 cm. Fringes are stable on CLIMB. Intense pic on VEGA with SNR ~ 6

UT08h15: target. We record with 40 blocks. **HD189733.2018.06.29.08.18**. Offset S1 = -5569 microns. Not stable tracking on CLIMB. Weak pic on VEGA. Tracking is worse at the end than at the beginning of the recording. Low flux since the target is faint.

UT08h36: slew on calibrator 2. Recording with 30 blocs. **HD196740.2018.06.29.08.46**. Offset S1 = -5489 micrins. Fringes on CLIMB and VEGA are ok. SNR VEGA ~ 3.0. Seeing ~ 6 cm. Around block 15: fringe quality on CLIMB degradates in comparison to the beginning, same on VEGA (SNR ~ 2). Around block 30: pic on VEGA is ok again with SNR ~3.4, better tracking on CLIMB.

UT09h00: slew on target. Recording with 30 blocs. **HD189733.2018.06.29.09.01**. Offset S1 = -5465 microns. Seeing around 6 cm. Unstable fringe on CLIMB, no pic on VEGA.

UT09h20: cal1. Recording with 30 blocks. **HD190993.2018.06.29.09.23**. Offset S1 = -5500 microns. No fringes on CLIMB/VEGA. Seeing around 5 cm. Not sure if there is anything here.

UT09h43: target. Recording with 40 blocs. **HD189733.2018.06.29.09.39**. S1 = -5526 microns. No fringes again on CLIMB/VEGA. Aborted, Olli will align again. Change W1 to POP3, losing star observability. Humidity is rising up to 60%. We delete this record.

UT09h57: we record again on the target with 40 blocks. **HD189733.2018.06.29.09.48**. Offset S1 = -5218 microns. Seeing around 5 cm. Again, nothing on CLIMB/VEGA. Block

20: fringes with strong piston on CLIMB, nothing on VEGA. Block 26: it appears to have a pic on VEGA. Average number of photons on VEGA ~ 50.

UT10h15: cal2. Recording with 30 blocks. **HD196740.2018.06.29.10.17**. Offset = -5240 microns. Seeing ~ 6 cm. Fringes on CLIMB are more stable in the beginning of this record. Weather and seeing are not great, we will finish the night observing Deneb.

**Spectral calibration: D\_CMR720.2018.06.29.10.31**

### **V73 S1POP4B2-S2POP5B1**

Target = HD 197345 (Deneb), no calibrators for this program. We use the own target for LABAO and checking fringes.

UT10h39: slew on Deneb. LABAO done. VEGA alignment. S2 was as ref, changing to S1.

UT11h05: fringe appears and disappears on CLIMB...there is a problem with CLIMB, Olli looks about that.

UT11h15: we still have problems with the fringes on CLIMB. It comes a intense pic but the piston is very strong too.

UT11h20: we record with 40 blocks. **HD197345.2018.06.29.11.18**. Fringes keep unstable on CLIMB. Intense pic on VEGA with SNR S1S2 ~ 6-10. Olli comments that there is probably an issue with carts. Piston is very strong on CLIMB, no tracking. Aborted at block 32 to restart server Ople.

UT11:47: to restart the server looked to work well. Fringes are strong and stable on CLIMB. We record again on Dened with 40 blocks. **HD197345.2018.06.29.11.41**. Offset S2 = 472 microns. Pic intense on VEGA, stable tracking. It is a good record now.

UT12h03: we do other record with 40 blocks for Deneb. **HD197345.2018.06.29.12.03**. Good record too. End of observations.

**Spectral calibration: D\_CHR656.2018.06.29.12.24**