

2019-06-13 VEGA observation

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Arrival at UT 3:10, everything ready. Good sky conditions.

V01, Ligi E2POP2V2 — W1POP5V3 (E2=+150, left)

UT03:30: we go on sky. LABAO alignment on HD97603 but seeing not very well for the moment. Alignment of NIRO and VEGA. r0 around 8cm. Too much dome seeing for doing the LABAO flat. Check star HD95608 at 3h45 for fringes. r0 around 10cm now. Offset=1380. B2=5.12. LABAO done at the end of the sequence on the check. Improvement of W1 pupil. E2 almost identical.

UT04h10: Cal1, HD96738. Hard time for CLIMB tracking. **HD96738.2019.06.13.04.18**. Offset 1350. Poor tracking by CLIMB, fringes are faint and moving over the window. r0=9cm. No peak seen after 5 blocks on VEGA. Finally the peak is seen on VEGA. 30 blocks to confirm.

UT04h30: target. NIRO alignment first. r0=11cm. **HD97658.2019.06.13.04.40**. Recording 40 blocks. Nice fringes on CLIMB. Good tracking. The VEGA peak is not obvious at all. Maybe something however.

04h57: cal1 again. **HD96738.2019.06.13.05.01**. Offset 1220. r0 around 10. Nice fringes now on CLIMB. Very nice peak very rapidly on VEGA. Much better conditions now. r0 10-11cm.

05h15: target again. **HD97658.2019.06.13.05.17**. Recording 40 blocks. Offset 1290. Tracking CLIMB ok. 50-70 photons on VEGA...The peak is really not obvious despite the decent conditions of seeing (9-11cm). We finally convinced our self that yes it is a peak.

05h35: cal1 again. **HD96738.2019.06.13.05.39**. Offset 990. r0 around 10cm.30 blocks again. Poor tracking on CLIMB. Peak ok on VEGA. 28 blocks at the end.

05h52: Target again but alignment first. **HD97658.2019.06.13.05.58**. Recording 40 blocks. Offset 1100 μ m. Peak on VEGA after 10 blocks (-30 μ m). r0 11cm. Fringes shifted by 100 μ m for a few blocks around numbers 12-16.

06h15: cal2 now HD107168. Nice pupils again. Nice peak. **HD96738.2019.06.13.06.18**. Offset 1180. Nice fringes on CLIMB, good peak well in place on VEGA.

Spectral calibration: **D_CMR720.2019.06.13.06.34**

V65, Mourard S2POP2V1-S1POP1V2-W2POP5V3 (S1=+150, left, S2=-300 right)

06:35: LABAO target HD181276. Troubles with S1 WFS. Olli has to go in the dome for restarting the server. It seems that we have a hardware issue on the S1 WFS computer. We abort this program.

V52, Nardetto E1POP1V1-E2POP2V2-W2POP4V3 (E1=+150, left, E2=-300 right)

07:35: LABAO target HD202109. OPLE reboot. FLATs ok on three scopes. Alignment of NIRO and VEGA. E1 cart issue.... Restarting VME. Slewed to the cal at 08h13. Fringe search is not working because of the

issues on the cart of W2 which cannot be put into TRACK.. So manual search of fringes. E1 fringes found around 4000 μ m.

08h50: Start recording on cal1 after cophasing. [HD190993.2019.06.13.08.52](#). E1=4000, E2=1000. B1=6.63, B2=5.38. Nice fringes on CLIMB. 3 peaks on VEGA. r0 around 6 cm now? But nice fringes.

09:01: target, small adjustment of E2 pupil. [HD198726.2019.06.13.09.05](#). E1=4010, E2=1010. Recording 20 blocks. 2 peaks are seen on VEGA. 3 nice fringes on CLIMB. r0 around 7 cm now.

09h13: cal2 now. [HD196740.2019.06.13.09.17](#). E1=4020, E2=1020. Nice fringes both on VEGA and CLIMB. r0 around 6/7cm.

09h26: target again, pupils well in place. [HD198726.2019.06.13.09.28](#). E1=4000, E2=1000. Nice fringes on VEGA and CLIMB. 3rd peak not clearly visible on VEGA RT display. r0 around 7cm.

09h37: cal1. E1 difficult to lock. Ref position of cart has been changed. [HD190993.2019.06.13.09.45](#). E1=4200, E2=1070. 15 and 40 μ m of error in the cophasing, third peak close to the spike. r0 is going down... 4cm to 7cm. Fringes VEGA ok but tracking not so good as before on CLIMB.

09h54: target again, few adjustments of pupil position. [HD198726.2019.06.13.09.58](#). E1=4130, E2=1080. B1=6.63, B2=5.38. Nice fringes on CLIMB. Good peaks 12&23 on VEGA. r0 around 7cm now. Third peak seen on VEGA.

10h06: cal2. REF cart has been moved again. [HD196740.2019.06.13.10.10](#). E1=4200, E2=1090. Good tracking on CLIMB. Three peaks rapidly on VEGA. r0 around 6cm now.

10h19. Target. Small issue with ALGOLR. [HD198726.2019.06.13.10.24](#). E1=4280, E2=1140. Fringes ok on CLIMB. Fringes ok on VEGA. r0 around 6cm.

10h33: POP5 on W2, New FLAT on W2. Default flat on E1 finally which gives the better results, NIRO alignment, cal1. [HD190993.2019.06.13.10.54](#). E1=4940, E2=1600. B1=6.68, B2=5.40. r0 around 5cm. Fringes ok on CLIMB and well in place on VEGA.

11h03: target now. [HD198726.2019.06.13.11.07](#). E1=5080, E2=1680. Nice fringes on CLIMB. On VEGA E2W2 is fainter than previously.

11h16: cal1 again. [HD190993.2019.06.13.11.21](#). E1=4900, E2=1610. Fringes are faint on CLIMB, ok on VEGA but E2W2 fainter now. r0 around 6cm. Stop at block 17, no more delay.

11h28 target but seeing is highly degrading. Close to 5cm now. [HD198726.2019.06.13.11.38](#). E1=5120, E2=1700. E1E2 ok on VEGA, E2W2 probably very poor. CLIMB ok on three fringes. r0=6cm.

11h46: cal2 now. [HD196740.2019.06.13.11.51](#). E1=4250, E2=1630. 2 good peaks on VEGA. CLIMB fringes are quite faint. r0 close to 6cm. 3 peaks at the end!

12h00: final point on the target. [HD198726.2019.06.13.12.04](#). E1=4990, E2=1610. 2 peaks seen on VEGA. CLIMB ok. r0 6-7cm.

Spectral calibration: [D_CMR720.2019.06.13.12.14](#)