

Engineering tests of CESAR + OPLE

UT03h15: preparation by the CHARA team with the new calibration source in the telescope and the new alignment procedure.

V16 Perraut HD108662 E1POP1B1-S1POP4B2 OPD+150 E1

UT03h20: Ready in the lab. Slew to the LABAO star HD108381.

UT03h39: slew to the check star HD107966 and scan for fringes. r0 around 9cm. Fringes found at -1200. But not seen clearly on VEGA. We try on the calibrator now. -980.

UT04h18: Recording on the cal but really hard to be convinced of the presence of fringes. r0=8.5cm. It seems that we have something, almost in position on the left. E1=-900 μ m, BC1=7.1. This is confirmed but fringes are at OPD=300. Very few photons, this is strange. 150-200 Photons for a star mv=5.7. Some piston on the CLIMB fringes after block 20. [HD108765.2018.07.04.04.12](#).

UT04h36: slew to the target. [HD108662.2018.07.04.04.39](#). 250 photons. r0 around 8cm. Nothing convincing during that sequence.

UT04h57: back to cal. E1=-750 μ m. [HD108765.2018.07.04.05.00](#). The same peak seems to appear but this could be an artefact. Its vertical position is not completely correct (frequency lower than expected). 20 blocks.

UT05h10: spectral calibration. [D_CMR720.2018.07.04.05.12](#)

V73 Klement Deneb E1POP1B1-E2POP2B2 OPD+500 E1

UT05h14: Slew to Deneb, HR656. E1 Dome issue during the slewing. E1=+100 μ m. BC1=7.6. Nice fringes. [HD197345.2018.07.04.05.31](#). AH=-4h10. Very nice sequence, r0 around 9/10 cm.

UT05h40: new data point. [HD197345.2018.07.04.05.42](#). HA=-3h55. Contrast is decreasing, as expected.

UT05h52: new data point. [HD197345.2018.07.05.53](#). HA=-3h45. Contrast is lower but fringes still ok, well tracked by CLIMB and in correct position for VEGA.

UT06h02: new data point. [HD197345.2018.07.06.03](#). HA=-3h35. $V^2 < 0.15$. Fringes ok on VEGA but clearly low contrast. (In the second room, the DM on S2 is ON and the loop is closed!).

UT06h13: new data point. Really low contrast now. [HD197345.2018.07.06.14](#). HA=-3h25. $V^2 = 0.1$. SNR still ok on VEGA.

UT06h23: New one again. [HD197345.2018.07.06.25](#). HA -3h10.

UT06h30: S2 is now ready we stop Deneb. Spectral calibration.

[D_CHR656.2018.07.04.06.34](#)

Engineering tests of CESAR

UT06h30: AO tests on CLASSIC then on the ANDOR.

UT07h30: we do the fiber injection on the internal source and record sky data on vega with and without the AO and with and without our TT.

V52 E1P1V1-E2P2V2-W2P5B3 OPD E2=-300 μ m (right), E1=+150 (left)

UT08h45: back to the T Vul program. LABAO star HD202109. Then we go directly on the cal. E1=-2050, E2=-2210, BC1=6.63, BC2=4.63. [HD196740.2018.07.04.09.06](#). r0 around 5cm unfortunately. Fringes ok on VEGA but the piston is important on CLIMB.

UT09h28: T Vul. [HD198726.2018.07.04.09.31](#). E1=-1930, E2=-2100. E1E2 fringes ok on VEGA. The E2W2 are really faint but piston is very important. E2W2 fringes seen at the end of the sequence.

UT09h40. Back to cal. Hard to find fringes, close to transit. We realign on a bright source, HD197752. **HD196740.2018.07.04.09.42**. started at 9h57. Fringes ok on VEGA , Piston on CLIMB. B1B2 only on the first 5 blocks. 3 beams started at block 6. So 25 blocks requested.

UT10h08. T Vul again. **HD198726.2018.07.04.10.11** Better fringes on CLIMB now, although TT reports $r_0=4\text{cm}$. $E_1=-1900$, $E_2=-2080$. E_1E_2 fringes ok on VEGA. E_2W_2 seen but very faint.

UT10h20: cal1 again. **HD196740.2018.07.04.10.22**. Fringes appear rapidly on VEGA, ok on CLIMB. r_0 starts improving

UT10h32. T Vul. **HD198726.2018.07.04.10.34** Nice fringes on CLIMB. E_1E_2 very strong rapidly on VEGA. E_2W_2 show up much more rapidly than previously. The conditions are improving. $E_1=-2070$, $E_2=-2130$. r_0 around 8cm now.

UT10h43. New cal HD208057. Very nice fringes on this one, both on VEGA and CLIMB. $E_1=-1930$, $E_2=-2130$. **HD208057.2018.07.04.10.47**. $r_0=9.5\text{cm}$.

UT10h56. Target again. **HD198726.2018.07.04.10.59** Fringes ok on CLIMB, E_1E_2 ok on VEGA rapidly and E_2W_2 appear also. E_1 cart is going to the front and we may lost it soon. E_1 lost at beginning of block10. 10 blocks recorded.

UT11h05. **HD208057.2018.07.04.11.08**. $r_0=8/9\text{cm}$ now. E_1E_2 nice on VEGA but it's long to see the other (E_2W_2) but they are here and well tracked by CLIMB.

UT11h18: spectral calibration. **D_CMR720.2018.07.04.11.18**

V01 E2P2V2-W2P5B3 OPD $E_2=+150\mu\text{m}$ (right)

UT11h20: we start by the LABAO star HD210027. But we need to remove the LDC first.

UT11h40: we slew to the cal HD209459. $E_2=-2420$. $BC_2=4.55$. Tracking not excellent by CLIMB but fringes ok on VEGA. **HD209459.2018.07.04.11.44**. $r_0=9\text{cm}$. Nice peak on VEGA. 20 blocks.

UT11h52: target. **HD209458.2018.07.04.11.56**. 50 photons on VEGA. Tracking on CLIMB not excellent, blind recording, no way to do differently. r_0 close to 8. Even after 10 blocks it's hard to be convinced that a fringe peak is present. But there is probably something at the left of the expected position with an error of $230\mu\text{m}$. So it's equivalent to and OPD of $380\mu\text{m}$ but this has to be confirmed during the processing. at block 20 E_2 cart was stuck. Ok at block 21.

UT12h15: Spectral calibration **D_CMR720.2018.07.04.12.15**