

Engineering tests of CESAR + OPLE

UT3:15: Ready in the lab. Wait for the dark and for the final installation of the AO-TEL in S2.

UT5h00: finally the AO-TEL will not be available tonight (issue to reinstall the calibration source). We will continue with LABAO.

UT6h45: VEGA now. No way to have a correct alignment on the LABAO system.

V01 Ligi HD219134 W2POP5B2-W1POP1B3 OPD+150 W2

UT6h50: start opening everything and setting CHARA and VEGA for this program. LABAO=HD432 for FLAT, and Check=HD202904. W2=-4700. BC2=5.499

UT07h35: go to cal, HD218376.2018.07.03.07.39. r0=11cm. W2=-5280. BC2=5.52. Very nice waterfall on CLIMB and excellent fringes on VEGA.

UT07h54. Target HD219134.2018.07.03.07.56. Again very nice tracking and waterfall on CLIMB and nice fringes well in position on VEGA but clearly much less contrasted. r0=13cm.

UT08h05: new calibrator HD205139.2018.07.03.08.06. W2=-4789, BC2=5.53. Again very nice sequence of perfectly tracked fringes and nice VEGA peak. R0=11cm.

UT08h18: target again. HD219134.2018.07.03.08.20. W2=-5071, BC2=5.52. Nice fringes, low contrast on VEGA. r0 around 10cm.

UT08h29: go to cal, HD218376.2018.07.03.08.31. r0=10cm. Fringes ok but not as nice as before. The waterfall is fine however and good SNR on VEGA. In fact this was just the really beginning, after that same quality as before.

UT08h40: Spectral calibration D_CM720.2018.07.03.08.41

V01 Lagrange HD206893 E1POP1B1-W2POP5B2-W1POP1B3 OPD-300 W2 (right), +150 E1 (left)

UT8h41: LABAO star=HD204075 and check star HD205637. E1=-4790, W2=-5480.

UT08:59: go to calibrator, HD210424.2018.07.03.09.03. E1=-4860, W2=-5210. BC1=7.4194, BC2=5.7192. Nice fringes for VEGA well in position (errors +4 μ m E1, -4 μ m W2) and good tracking 3T by CLIMB. r0=10cm.

UT09h12: to the object. HD206893.2018.2018.07.03.09.18. Nice fringes on CLIMB. Fringes ok on VEGA but clearly faint. 40 blocks. The first 10 blocks are not cophased at the exact position. So 50 blocks to have 40 blocks on the correct position (BC1=7.46, BC2=5.72). W1W2 well at the expected position. r0=11cm. The E1 fringes finally appears well in position but this is faint clearly.

UT09h40. to the cal HD210424.2018.07.03.09.44. E1=-4960, W2=-5040. Nice fringes everywhere! Exactly at the correct position on VEGA and well tracked by CLIMB.

UT09h53. to the target HD206893.2018.2018.07.03.09.57. Change of the position of the reference cart. E1=-5125, W2=-5032. Long integration is necessary on VEGA. 40 blocks. fringes are coming after blocks 8. r0=9cm.

UT10h15: to cal. HD210424.2018.07.03.10.17. E1=-5090, W2=-4960. Nice fringes on CLIMB and og on VEGA. Errors on E1=30 μ m, error on W2=10 μ m.

UT10h25: Spectral calibration D_CM720.2018.07.03.10.36

V01 Ligi HD209458 E1POP1B1-W2POP5B2 OPD +150 E1 (left)

UT10h30: We start first by removing the LDCs on E1W1W2. LABAO star=HD210027

UT10h42: slew to the cal HD209459. E1=-570. BC1=7.61. Nice fringes by CLIMB and well ok on VEGA. HD209459.2018.07.03.10.59. r0 around 8cm. Small corrections of 10 μ m every 2 or 3mn in the cophasing situation to account for the non-correction of the longitudinal dispersion. 25 blocks.

UT11h10: slew to the target. [HD209458.2018.07.03.11.15](#) E1=-527, BC1=7.54. Fringes appear but they are on the right with an OPD of -150 μ m in fact, so opposite to the expected position. On this star no more than 80 photons per frame and signal to noise is low so that correction the dispersion is almost impossible. Position to be checked during the processing, as a second peak appeared also on the left.... W2 lost at block 17, back at bloc 18. It seems that we have vibrations on the tracking of W2. After a long integration Fringes appears on the left with an error of 150 μ m. So there are at +300 in fact. But I do not correct. Seeing is dropping close to 6cm. probably good to test a processing by a sum of 10 blocks.

UT11h34. We try the cal but for how long? No delay. We switch to W1W2

V01 Ligi HD209458 W2POP5B2- W1POP1B3 OPD +150 W1 (left)

UT11h35: The cal with W1W2 now. W1=+4615, BC2=5.68. [HD209459.2018.07.03.11.47](#). Fringes ok on CLMB and well in position in VEGA. It is even not really necessary to change the cophasing. 10 μ m done at block 10. r0 around 8cm.

UT11h56: target. Really hard to get W1 in the tip/tilt. [HD209458.2018.07.03.12.04](#). Fringes ok on CLIMB. r0=8cm. Fringes seem to appear but on the right side but maybe it's just a ghost as something different appears also on left. After a while the fringes are confirmed on the left. Recording has not been started so cophasing and now recording. Now they seem to be on the right... This is really close or even after the limit of the possible. Maybe with better conditions. Finally after a while they seem to be at +50 μ m of OPD (error -100 with respect to the setting). 36 blocks, it's daytime and fringes are jumping.

UT12h25: Spectral calibration [D_CM720.2018.07.03.12.26](#)